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ROYAL COMMISSION

ON

ENERGY

HEARINGS

HELD AT

CALGARY,

ALTA.

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ROYAL COMMISSION

ON

ENERGY

Hearings held at Calgary, commencing Tuesday, April 29, 1958, at 10.00 a.m.

PRESENT:

Mr. H. Borden, C.M.G., Q.C. -- Chairman

Mr. J.L. Levesque -- Member

Mr. G.E. Britnell -- Member

Dr. R.D. Howland -- Member

Mr. L.J. Ladner, Q.C. -- Member

Dr. R.M. Hardy -- Member

COMMISSION COUNSEL:

Mr. A.S. Pattillo, Q.C.

Mr. Miles H. Patterson.

Mr. J.F. Parkinson -- Secretary to the Commission.

Major N. Lafrance -- Assistant Secretary to the Commission.

APPEARANCES:

Representing The British American Oil Company Limited:

Mr. E.D. Loughney	-	Senior Vice President
Mr. D.L. Campbell	-	Senior Vice President
Mr. O.I. Torkelsen	-	Vice President
Mr. E.J. Gallagher	-	General Manager Production and Pipe Line Department
Mr. J.R. Yarnell	-	Treasurer
Mr. H.S. Sparrow	-	General Manager, Crude and Products Supply
Mr. D.S. Lyall	-	Manager, Economics Co-Ordination Department
Mr. J.F. O'Neil	-	Manager, Crude and Products Supply, Western Division
Mr. A.H. Kemp	-	Advisor, Pipe Line and Construction
Mr. J.A. Strand	-	Petroleum Engineering Supervisor
Mr. S.J. Anderson	-	Production Engineering Advisor

APPEARANCES:

Representing Canadian Oil Companies, Limited:

Mr. W.H. Rea	-	President
Mr. D.P. Robinson	-	Vice-President, Secretary and General Counsel
Mr. J.B. Webb	-	Producing Manager and Exploration Manager
Mr. W.M. Luthy	-	Development Manager
Mr. R.B. Eddy	-	Legal Counsel
Mr. H.G. Bagnall	-	Operations Manager
Mr. J.W. Dick	-	Chief Accountant

EXHIBITS

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CC-9-1	Submission of Canadian Oil Companies, Limited	5475

Friday,
May 9, 1958.

---On resuming at 9.30 a.m.

---Mr. Commissioner Levesque was not present.

---Mr. Commissioner Ladner was not present.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing. Mr. Pattillo?

MR. PATTILLO: Thank you, Mr. Chairman.

Before we commence the further examination of British-American Oil officials, Mr. McGrath, of the National Coal Association group, would like to make a statement.

MR. JOHN A.McGRATH: Mr. Chairman and the Commission, in reviewing the schedule that you have docketed thus far, it appears that you gentlemen have been terribly busy in hearing the various oil companies' presentations. Our organization, of course, is not in any way connected with the oil industry and we have an extremely tight schedule, ourselves, in that at least one of the individuals who would be a part of our presentation must return to Washington.

If it would please the Commission, we would be most agreeable if we would be permitted

to submit ourselves for cross-examination at some later date, at the Commission's pleasure.

THE CHAIRMAN: Well, Mr. McGrath, that is a very co-operative suggestion. Our schedule here in Calgary is very tight and crowded, as you know, and I know that you and your colleagues have gone to a lot of expense to get here. I think it would be impossible for us to hear you today.

Would July 14th, at Montreal, be convenient for you?

MR. McGRATH: Yes, sir, that would be very convenient. Our people are all in the East.

THE CHAIRMAN: We plan to meet in Toronto on July 2nd but I think our schedule there will be fairly tight also; but, if July 14th, in Montreal, would suit you and your colleagues, it certainly would be appreciated by the Commission and we could put you on that day.

I do not see Mr. Parkinson here, but I will undertake to see that you go on, if not first, then second, at our hearings in Montreal.

MR. McGRATH: Thank you very much, sir.

THE CHAIRMAN: We will advise you in due course as to that, but I think you can confidently anticipate that it would be July 14th.

MR. McGRATH: Thank you very much, sir, and again, we wish to express our appreciation for your having permitted us to appear before your

Commission and for allowing us to file our submission and for Mr. Hall to make his statement on Wednesday.

THE CHAIRMAN: Thank you very much. We appreciate that there are matters in your submission which we would like to deal with more or less calmly and not in a rush, and I think it would be much better for everybody and more valuable to the Commission if we could do it that way. I appreciate your cooperation.

MR. McGRATH: Thank you, sir.

MR. PATTILLO: Mr. Chairman, there is only one thing I would like to say as to what Mr. McGrath just said, and that is that he referred to submitting themselves for cross-examination. Now, I know tha a lot of people think they have been subjected to cross-examination, but what I am trying to do is to conduct an examination for discovery rather than a cross-examination. I can assure anybody that, if it was a cross-examination, I would be quite different.

THE CHAIRMAN: Nobody is angry.

MR. PATTILLO: Mr. Loughney, would your company endeavour to get for us the same information I have sought from the other oil companies in respect to Gulf's finding, development and lifting costs in Venezuela and in the Middle East, and would you also supply B-A's figures in connection with their producing operations in Canada?

MR. LOUGHNEY: Yes, sir, we will file British-American and we will endeavour to get the information from Gulf.

MR. PATTILLO: Now, I do not know whether you have had an opportunity, Mr. Loughney, to examine the 1957 annual report of Standard Oil Company of New Jersey, but in that report they show a breakdown of the consolidated income of the company and its subsidiaries, showing the source of it, and it is, in my opinion, highly significant that such a large percentage of the income of the year came from the operations in Venezuela.

I have examined the Gulf 1957 report. It has not been broken down in the same way. It does not show the same information as clearly.

I wondered whether you might see whether we could have the same information obtained, so that we could have that picture as well, from Gulf.

MR. LOUGHNEY: Well, I will do what I can. I am not sure -- I have not seen the Standard of New Jersey report and I don't know the manner in

which it was prepared or whether Gulf could do it, but I will attempt to get the information for you.

MR. PATTILLO: Thank you. Now, in discussing the factual situation yesterday, I think I neglected to ask you as to the imports of crude and products into Canada by B-A Oil. Would you please give us that, in areas?

MR. LOUGHNEY: Just a moment, please.

MR. CAMPBELL: Products imports, Mr. Pattillo, we have the information: for 1957, 2,700 barrels per day; 1956, 3,000 barrels per day; 1955, 3,000 barrels per day.

MR. PATTILLO: Did that all come into the Provinces of Ontario and Quebec?

MR. CAMPBELL: No. Actually, the greater proportion is on the West Coast,the heavy residual fuel oil imported into Vancouver from Calgary.

MR. PATTILLO: Now, you were talking, yesterday, about the new refinery that is being constructed in British Columbia. When that refinery comes on stream, will that immediately increase the quantity of crude that is going through the Trans-Mountain pipe line, to the extent of the capacity of the refinery?

MR. CAMPBELL: It will not decrease it. It will be increased, if anything. It will be either the same or increased. We have crude

being run for us at the West Coast by another refinery.

MR. PATTILLO: So there may be some slight increase, but nothing like the full capacity of the refinery?

MR. CAMPBELL: That is correct.

MR. PATTILLO: Now, I would like to deal, for a moment, with your ideas as to there being a good market for Canadian oil in certain sections of the United States.

Do you agree that at the present time no person in the United States is importing, from Canada, oil up to the quota which he, being a company, is permitted to import?

MR. CAMPBELL: We don't have the figures by companies, Mr. Pattillo. We have the figures in total.

MR. PATTILLO: Well, from the figures that you do have, would you agree that the imports into the United States from Canada are below the quotas permitted?

MR. CAMPBELL: That is right.

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MR. PATTILLO: Now, have you any personal knowledge from inquiries made which enables you to give any opinion to the Commission as to when it is likely that the quota figures now pertaining will be reached for importation from Canada?

MR. CAMPBELL: I don't know, Mr.Pattillo, when those quota figures will be reached.

MR. PATTILLO: Have you any personal knowledge other than the evidence you have given me here of any proposed increase by United States importers from Canada?

MR. CAMPBELL: We heard some evidence given before this Commission that two of the companies indicated that they would increase the amounts that they would import.

MR. PATTILLO: I appreciate that, but other than that, have you any knowledge of any proposed increase in imports from Canada?

MR. CAMPBELL: No.

MR. PATTILLO: What bothers me, Mr. Campbell, is that if you have no knowledge other than what is gained from the evidence given here, on what do you base your views that the imports into the United States from Canada are bound to increase in the immediate future?

MR. CAMPBELL: They are based on the forecast of our need in the United States over the long term for increased quantities of crude oil,

and production in the United States is indicating that it is not meeting the demand, and therefore more imports will be required.

MR. PATTILLO: But you have no assurance that those imports would come, or any part of them would come, from Canada rather than Venezuela or the Middle East?

MR. CAMPBELL: No, we have no assurance of that. The figures we have submitted are our best estimates of what might take place.

MR. PATTILLO: Has any company in the United States told your company that they seriously were considering importing oil from Canada in the near future?

MR. CAMPBELL: We have had an inquiry, Mr. Pattillo, from a concern that is contemplating the construction of a refinery on the west coast of the United States.

MR. PATTILLO: Are you at liberty to tell that or would you prefer to disclose that only to the Chairman?

MR. CAMPBELL: I would prefer to disclose that only to the Chairman.

MR. PATTILLO: And will you do so?

MR. CAMPBELL: I will do so.

MR. PATTILLO: Has anyone associated with B-A made a trip to the United States to discuss with oil officials or with government

officials what United States policy is likely to be regarding imports of crude oil into the United States?

MR. CAMPBELL: We have had no discussions with government officials in the United States.

MR. PATTILLO: Now, as to the subsidiary of B-A in the United States in the producing business, what position has it taken regarding the importation of oil into the United States?

MR. LOUGHNEY: It has not taken an active position, Mr. Pattillo. Fortunately, the United States company's production is in areas which are not presently seriously affected by pro rationing.

MR. PATTILLO: What has been the position taken by Gulf?

MR. LOCHNEY: Gulf has taken the position -- well, I think maybe I could explain that better if I may be permitted to read a statement of Mr. Whiteford.

MR. PATTILLO: And he was at one time president of the B-A Oil Company?

MR. LOUGHNEY: That is correct, sir. This is a statement which refers to the present question before the Congress in the United States now on the extension of reciprocal trade between the United States and foreign countries, and I quote Mr. Whiteford:

"In referring to the benefits that would accrue to the United States from adherence to the principles of reciprocal trade, and from free trade between the United States and other countries, Mr. Whiteford made the following statement: 'Moreover, these benefits are not matters of estimate, nor conjecture, nor are they even debatable. They have been tested by time and proven by experience, and because they have, it becomes very difficult to believe that any citizen, in or out of Congress, could seriously oppose the extension of the Trade Agreements Act. Yet, the lamentable fact remains that reciprocal trade has many enemies. What is more to the point, some of the most active and vocal of them are in the oil industry.

"'Experience has shown that the most effective opposition to the concept of reciprocal trade has come from the 'yes, but' men, who, while paying lip service to the principle of trade freedom, nonetheless seek to undermine and ultimately to destroy its practice through the use and sometimes the abuse of amendments to the Trade Agreements Act which provide special exceptions for special situations.

"'For example, in 1955, Congress amended the act to provide that where the importation into the United States of a product or commodity produced in a foreign country became so large as to jeopardize national security by endangering the health of an essential domestic industry, the President could, after fact finding procedures, place limits on the quantity of the foreign product to be permitted entry. Considered abstractly, this seems a soundly prudent safeguard. But what has actually happened under this amendment has proven it to be something else as well -- a loophole, in fact, through which the opponents of reciprocal trade can work to defeat the spirit of the Trade Agreements Act.

"'Gulf not only recommends the extension of the Trade Agreements Act, but also suggests that Congress should set up some sort of fact finding standards so that any industry, or any segment of an industry that complains of being hurt by imports will be required to prove its case with better and more convincing evidence than has heretofore been necessary.'"

MR. PATTILLO: Thank you, Mr. Loughney. Now, has your company made any examination of the

figures to determine whether or not Canadian crude, so far as price is concerned, is competitive with the crude now being laid down and used by refineries in the following places: Toledo, Detroit, Chicago, the Lakehead and Minneapolis-St. Paul?

MR. CAMPBELL: We have a map here in the corner, Mr. Pattillo, on the easel which is also shown as Exhibit 5 in our brief.

MR. PATTILLO: On your Exhibit 5 you show the present laid-down prices of the crudes that are being used, for example, in Detroit and Toledo, but you haven't made any calculation, I understand, on what it would cost to put Edmonton-Redwater in there; is that correct?

MR. CAMPBELL: That is correct. The cost of moving it from Sarnia, which is the nearest point on the International pipe line system, to Toledo, you will note we show Redwater crude, Sarnia, 3.39 a barrel. To that would be added the duty to import into the United States, and Mr. Sparrow has made a horseback estimate of possibly 20 cents a barrel to move it from Sarnia to Toledo.

MR. PATTILLO: I was going to ask whether you had any other information to supplement Exhibit 5 which would enable the Commission to have better comparative figures.

MR. CAMPBELL: No. The only other

figure which we have which might be of interest to the Commission we have had calculated is what the estimated cost of moving crude from Clarkson to Montreal would be using the lake vessel which we have which has 125,000 barrels' capacity, and this is based on after the St. Lawrence Seaway is opened and with an estimate of a dollar per long ton for Canal toll.

MR. PATTILLO: And with that figure put in, what do you arrive at?

MR. CAMPBELL: We estimate the cost of moving the crude at 35 cents per barrel which, on the basis of our figures here, would show Redwater laid into Montreal at $3.82 a barrel.

MR. PATTILLO: Now, you have just been talking, Mr. Campbell, about this tanker that you have on the Great Lakes. Is that tanker presently in use moving up and down the lakes today?

MR. CAMPBELL: Yes, it is.

MR. PATTILLO: Can you give us any figures as to what it is costing you to move a barrel of oil in there, from Superior to Clarkson, Sarnia to Clarkson?

MR. CAMPBELL: We would be glad to file that figure. If you would give me just a moment here. Twenty-eight cents a barrel from Superior to Clarkson.

MR. PATTILLO: Now, may I ask you a few

questions regarding this Montreal proposal. What is your company's viewpoint to the necessity of having a complete embargo on the crude you are moving into Montreal if a pipe line from Montreal was going to be erected?

MR. LOUGHNEY: Well, we don't like the idea of embargoes, we prefer the free trade.

MR. PATTILLO: Do you think that an embargo would be necessary if a decision was made to put Canadian crude into Montreal?

MR. LOUGHNEY: Well, as we see the economics of it, Mr. Pattillo, and granting that our studies, particularly on the tariff, pipe line tariff, were nothing more than preliminary studies, we feel that the quota system or an embargo would be necessary; we think that the Canadian crude would not be competitive, and therefore if anyone else were permitted to bring foreign crude in we would not be in a competitive position.

MR. PATTILLO: Now, supposing no embargo was imposed, that your company was asked to sign a throughput agreement on a pipeline going into Montreal carrying Canadian crude. What would be the position of your company?

MR. LOUGHNEY: Well, the position of our company, speaking generally, is that we do not like throughput guarantees or deficiency guarantees and in this particular instance our position would be no different as far as the general policy is concerned. However, we would do it in the same manner that we would any other similar request. That is, we would obtain all the information that we could before we gave a final decision. I can assure you we would resist giving deficiency guarantees because that is policy, as far as we are concerned.

MR. PATTILLO: Mr. Loughney, if you do not think the pipeline to Montreal is economical and you cannot see any immediate hope of selling increased volume to the United States, other than those about which we have heard, which will amount to 10,000 barrels in another month or so and a further 8,000 barrels in the fall, do you not think that something has to be done to try to move this crude oil from Alberta, if the producers are going to be able to survive.

MR. LOUGHNEY: Yes, we do, Mr. Pattillo but if I may I would like to enlarge on that answer.

MR. PATTILLO: Right.

MR. LOUGHNEY: In the first place we are not looking at this as a short-term problem for which we must find an immediate answer. As far as the US markets are concerned, we feel that the Minneapolis-St. Paul-Superior area is a natural market for Canadian crude: No. 1, because of proximity, served by a pipeline; No. 2, because it is a good competitive price.

We also feel that when conditions adjust themselves in the United States, which is not a long-term proposition, we don't feel, the Puget Sound area will again return to Canadian crude. So that we look forward then to an increasing demand for Canadian crude in the United States.

The second part of the answer to the problem deals with the Ontario market and we feel that the Ontario market is still a growing market for Canadian crude particularly as the Toronto refining area grows and the products which are now reaching the Metropolitan Toronto area in substantial quantities due to the Trans-Northern Pipe Line will be backed out and replaced with products refined in the Toronto area from Canadian crude.

MR. PATTILLO: Do you think - -

MR. LOUGHNEY: There is one more point, if I may.

MR. PATTILLO: Yes, go ahead.

MR. LOUGHNEY: We also point out in the brief that there is an adjustment of excess inventories of a finished product which accounts, in our judgment, for about 36,000 barrels per day decrease of Canadian runs through Canadian refineries due to this over-inventory position.

MR. PATTILLO: Do you think that anything might be done to alleviate the present situation if the industry got together and knocked each other's heads for a while?

MR. LOUGHNEY: Well, there is one difficulty which we have not yet found the answer to in getting together. Maybe if we could figure out a way to get together without getting into trouble it would not be necessary to bang any heads.

MR. PATTILLO: You are talking about the fear that if you got together you might be criticized by the Combines Commissioner.

MR. LOUGHNEY: Yes sir.

MR. PATTILLO: If you had assurances that there would be no such criticism, would you feel that the industry, if it got together, could perhaps assist the present situation?

MR. LOUGHNEY: Well, I think the past history of the industry, at least the foregone one, is where the industry has had an opportunity to get together and work out a solution to a problem, they have been successful in doing so.

MR. PATTILLO: Do you think, Mr. Loughney, that the situation is serious enough that somebody should request the Minister of Justice to permit getting together without any fear or reprisals from the Combines Commissioner?

MR. LOUGHNEY: We do not feel that it is entirely necessary, no sir. We feel that the situation will correct itself. We can see some improvement in the overall situation as far as the North American Continent is concerned.

MR. PATTILLO: You mean that the demand is beginning to increase or that the supply -- the over-supplies are being used up?

MR. LOUGHNEY: Well, we feel that as far as in both the United States and Canada that the over-supply situation or long-inventory position is being corrected, as far as our own company is concerned. Again I would like to point out that we have increased our runs in Clarkson. We have decreased our runs in Montreal and as a company we feel we are doing everything possible to improve the situation as far as the demand for Canadian crude is concerned.

MR. PATTILLO: Now, regarding this products line from Montreal to Toronto and your view that that line will reverse its flow for at least part of this distance; is that only your company's view or has that been the agreed policy amongst the shareholders of that line?

MR. LOUGHNEY: The present plan of the company, as discussed by the shareholders, is that the line would be reversed by 1961 -- 1962, sorry.

In addition to the understanding between the shareholders, any company who had indicated an interest in shipping products over the line has been so advised.

MR. PATTILLO: In other words if British Petroleum wants to go into Montreal and build a refinery with the intention of using that products line, they have been told that after 1962 they will only get it along the line so far.

MR. LOUGHNEY: That is right, yes sir.

MR. PATTILLO: Now, supposing that we did put Canadian crude into the market, would your Montreal refinery be faced with substantial capital cost treatment to make the necessary changes to use it?

MR. CAMPBELL: No, it would not.

MR. PATTILLO: In your brief, Mr. Loughney, there is one statement that puzzled me a great deal. That appears on page 8, the last paragraph. You say, "A decline in production for domestic consumption, we believe, is attributable to a considerable extent to the fact that the refineries will be drawing on inventories to supply their particular requirements, particularly the excessive inventory accumulation of middle distillates during a comparatively mild winter".

Now, as I understood the rest of your brief,

one of your objections to taking Canadian crude to Montreal was that it did not break down in the same way as foreign crude and that you were already importing substantial amounts of middle distillates; and that you would have to import a great many more.

Here, if the middle distillates are all imports, what effect does that have on the Canadian run?

MR. CAMPBELL: Mr. Pattillo, you indicated substantial imports of middle distillates to Montreal. We purchased two carloads before the close of navigation in 1957 of middle distillates and the winter was warm enough that we did not require them. If we had been able to forecast the weather we would not have bought those two carloads.

MR. PATTILLO: That does not in any way affect your refinery run, does it? It affected your importations.

MR. CAMPBELL: Your refinery run and your yields and your importations are all tied together.

MR. PATTILLO: In other words you say we couldn't guess correctly what the winter weather was going to be. We bought all these cargoes which we did not need and accordingly we have to work them off somehow and that meant we were not refining and getting these other middle distillates that we would have got if we had Canadian production. Is that it?

MR. CAMPBELL: No. Would you excuse me just

a moment, Mr. Pattillo, while I do some figures here.

MR. PATTILLO: Yes, certainly.

MR. CAMPBELL: Our figures indicate, Mr. Pattillo, that we would average a reduction of 17,300 barrels per day during the year 1958 in order to work off these inventories.

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MR. PATTILLO: Mr. Loughney, one of your arguments against the Montreal market is that you are afraid that there would have to be a substantial reduction in the wellhead price and that the incentive to explore would be seriously affected. Can you help the Commission by giving us some idea of what, in your years of experience in the oil business, the industry generally considers is the floor to yield a proper incentive?

MR. LOUGHNEY: By "floor", do you mean a pay-out in years?

MR. PATTILLO: I am sure we are all anxious for you to express it in any way you wish. You will remember I used the word "mark-up" and everybody disliked it.

I want to find out if the industry has some method, developed over the years of saying, "If we don't get so much, it isn't worth it. Everything above that is gravy".

MR. LOUGHNEY: Just a moment, please.

Well, I will do the best I can. I am sure you appreciate that part of this information is information confidential to a company, as so expressed by a previous witness.

MR. PATTILLO: Any part that you consider confidential and do not want to express orally for the record, if you would just agree that you would give that to the Chairman, because we are

looking for help here.

MR. LOUGHNEY: I quite understand, Mr. Pattillo, and we are most anxious to be helpful.

MR. PATTILLO: Thank you.

MR. LOUGHNEY: Generally speaking, in our own operations we look to three to five years as a reasonable pay-out period in our drilling operations, producing operations, and when the pay-out period extends beyond that, the rate of return and the length of time in which it is necessary to recover your money, we feel, is a serious deterrent for the incentive to continue a drilling program.

MR. PATTILLO: And that pay-out you are talking about, that is the recovery of what? Acquisition costs of the land, the exploration costs you would attribute to the well, the actual drilling costs of the well and the lifting and operating costs?

MR. LOUGHNEY: That is the development plus lifting costs.

We have made a study which may be of interest to the Commission, which I would like to file with the Chairman, if I may, in which, using the average 1951 to 1957 wellhead price and then reducing that price as much as 50¢ a barrel, we have calculated the rate of return and the pay-out, in years, and I believe this statement will give

you the information you are looking for; but I would prefer that it be filed with the Chairman.

MR. PATTILLO: Thank you very much.

Would you, as we requested the other companies, also file with the Chairman a comparative statement showing the results of your refinery operations in Montreal versus Clarkson?

MR. CAMPBELL: Yes, we will be glad to file that with the Chairman, Mr. Pattillo.

MR. PATTILLO: I have only one or two more questions:

Mr. Loughney, I asked Mr. Lilley, of McColl-Frontenac whether he had had any discussions with other people in the industry who were operating refineries in Montreal as to the position that McColl-Frontenac should take in opposing this proposed line to Montreal.

Are the views expressed here the views of B-A, arrived at independently; or are they in any way the result of conferences with others?

MR. LOUGHNEY: The view expressed in our brief are entirely the views of British American Oil Company.

I might add, further, Mr. Pattillo, that this brief was not intended as a brief of opposition to any projected line into Montreal, but it was a study undertaken on behalf of British American Oil Company to find out what,

in our judgment, the proper thing to do is under the present circumstances, and we still feel that the Ontario refining center should be developed before we leapfrog into Montreal with further expansion.

It is a matter of hauling crude oil one way and the products the other, and that does not make much sense to us.

MR. PATTILLO: Thank you, Mr. Loughney.

THE CHAIRMAN: Mr. Frawley?

MR. FRAWLEY: Mr. Loughney, what part does the Sun Oil play in the anticipated expansion of Alberta crude in the Ontario market, in the calculations that you have been using?

MR. LOUGHNEY: Just a moment, please.

MR. CAMPBELL: 6,000 barrels per day at the present time, Mr. Frawley, going up to 15,000 barrels per day.

MR. FRAWLEY: Out of a capacity of what?

MR. CAMPBELL: O r figures indicate estimated importing, 6,000 barrels per day of U.S. crude at Sarnia in 1959 for Sun.

MR. PATTILLO: 6,000 barrels daily of U.S. crude for Sun?

MR. CAMPBELL: And the balance will be Canadian crude.

MR. FRAWLEY: Well, what will that be?

MR. CAMPBELL: About 12,000 barrels daily.

MR. FRAWLEY: And that is from a figure that you might interpret in the calculations when you were telling us about the expansion that our market could expect in Ontario?

MR. CAMPBELL: That is correct.

MR. FRAWLEY: I think I would like to put on record what the Sun Oil Company itself thinks about it, and I am referring to the 1957 annual report and reading this paragraph from the Chairman of the Board of Directors, Mr. Pew, who says:

"Mounting imports of foreign oil have contributed to this situation, which the Federal Government has sought to correct through a restrictive program of voluntary quotas. Your Company believes that the current imports of crude, as well as residual oil, are excessive. We believe these imports are supplanting, rather than supplementing, domestic production to the detriment of the American industry."

That is what Mr. Pew says, in the letter to the shareholders.

Then he describes the Canadian operation on page 7, and this is what he has found, both in Canada and Venezuela:

"The oil reserves so far discovered indicate sufficient oil to more than offset the decline in domestic and Canadian operations."

Incidentally, do you know anything about the extent of Sun's production in Canada, the extent to which it is in this country as a producer?

MR. LOUGHNEY: I think we have a figure. Do you want it?

MR. FRAWLEY: No, I will give it to you, Mr. Loughney. This is what the report says, at page 8:

"For the first time, Sun-operated producing wells in the Canadian Production Division passed the 200 mark and production exceeded 2,000,000 barrels annually."

And I have had a calculation made that shows that that is about 5500 barrels daily.

"Oil produced and marketed showed a 32 per cent gain over 1956, despite cutbacks in allowables imposed by the Provincial conservation authorities in late 1957."

Then, at page 14, I want to read you just a short paragraph of what they are doing at their Sarnia refinery:

"During 1957 the Sarnia, Ontario, Refinery of Sun Oil Company, Ltd. reached a new record in crude runs averaging 17,400 barrels per calendar day, a gain of 15 per cent over the previous year. Also, during the year Canadian crude oil was run for the first time, although most of the crude oil

run at the refinery is still imported from the United States."

Now, I put it to you, Mr. Loughney, really, that on that record you cannot expect Mr. Pew's company to come anywhere near what you prophesy he will, namely, that he will go on Canadian crude for 12,000 barrels a day, beginning in 1959.

What do you think about the prospect?

MR. LOUGHNEY: Well, the 12,000 barrels per day that we have used is based on information, the best information we could obtain, plus the fact that a connection from Interprovincial to the Sun Refinery has recently been requested.

Now, I am not in any way suggesting to you that I am speaking for Sun, and I take it that, as a producer, you would probably be talking to them the same as you are to us, so maybe it would be better if the Sun would speak for themselves.

MR. FRAWLEY: That is quite right, Mr. Loughney, and I only wanted to put to you and put on the record what looked like the attitude of the Sun Oil Company as it is now.

Then I go a little further and make the suggestion to you that if a Canadian refinery -- that is what the Sun Oil Company Limited is, isn't it, corporate-wise, anyway?

MR. LOUGHNEY: Well, I have not read the report, and you have. I will accept your statement.

MR. FRAWLEY: He calls himself the Sun Oil Company Limited. That is the Canadian subsidiary, isn't it?

MR. LOUGHNEY: I really don't know anything about Sun, I'm sorry.

MR. FRAWLEY: Well, if this refiner, such as he is, is reluctant to take our crude, how can you expect a purely United States refinery at Toledo and Detroit to rush forward, looking for our crude?

MR. LOUGHNEY: I don't think we have suggested anybody is going to rush forward for it.

MR. FRAWLEY: There certainly has not been any rushing, up to now.

MR. LOUGHNEY: There was some serious discussion to now as far as our refinery at Toledo is concerned and, while there is nothing immediate, we are hopeful in the future that we will develop a market at that refinery.

MR. FRAWLEY: Now, then, still discussing your hopes for our export, you lay considerable stress on the Puget Sound.

MR. LOUGHNEY: Yes.

MR. FRAWLEY: But you are not a refiner there yourself.

MR. LOUGHNEY: We will be a refiner in Vancouver.

MR. FRAWLEY: But I mean on the other side of the International line you are not a refiner.

MR. LOUGHNEY: We are not operating as a manufacturer in the United States.

MR. FRAWLEY: But including Gulf. I think you told us yesterday that Gulf wasn't a refiner in the Puget Sound area.

MR. LOUGHNEY: No, our major stockholder is not.

MR. FRAWLEY: But we find that Shell Oil has backed out Canadian crude in favour of Californian crude even higher priced. That is what the record shows, doesn't it?

MR. LOUGHNEY: Yes, I think it does.

MR. FRAWLEY: And I was just wondering to what extent you have consulted with these refiners, Shell, Texas and Mobil, but I take it that your prognostications were not as a result of any commitments you had from those refiners.

MR. LOUGHNEY: Well, we would not be in

a position to ask for commitments.

MR. FRAWLEY: No, that is not at all likely. Now, there was some mention made of the Los Angeles market, and the figures that you have shown are that local Californian produced crude at 3.66 a barrel has backed out our crude, Redwater crude, at 3.49. That is what your Exhibit 5 seems to show. Now, that being the situation for the Los Angeles refiner, that he prefers his own crude even with that kind of price differential, I suggest to you that we should be at Montreal as Canadian-minded as the Californian refiner appears to be California-minded. What do you say as to that, Mr. Loughney?

MR. LOUGHNEY: Well, the situation in California as far as over-supply at the present time is concerned is rather chaotic, and while that situation is undoubtedly true today, I am not sure that it will always be that way. We look forward, and we have evidence in the way of long-term forecasts by experts that we have seen which indicated that we can expect offshore shipments from Vancouver in the California area.

MR. FRAWLEY: I am just putting it to you that if Redwater can back out local California crude, I am wondering why the California producer uses it except that he is California-minded.

MR. LOUGHNEY: I think it goes a little further than that. He has production of his own on which he spends his money and he has got to take care

of it.

MR. FRAWLEY: But he is paying higher posted prices for the California crude than he could get the Canadian crude at, and I am putting it to you that if you had to pay a little more for Canadian crude in Montreal you should be Canadian-minded and take it. What do you say about that?

MR. CAMPBELL: I think what we are suggesting asfar as Canadian crude is concerned is that we feel that the market for Canadian crude should be expanded. I think the logical sequence of marketing indicates that. The market was extended further east. The crude line was built to Superior, and subsequently, as additional reserves were discovered, the pipeline was extended to Sarnia and the market for Canadian crude was extended. The next step was to extend the pipeline from the Toronto area, and that market is extending. We think that the Ontario market, the end of the existing pipeline, can be expanded, and certainly British-American plans, I think you will agree, have indicated that it is our intention to extend that market. We feel that the Ontario market should be saturated before leap-frogging, as Mr. Loughney put it, to Montreal. To go to Montreal at the present time -- the major market for the products is in the Toronto area essentially, so if you go directly to Montreal with crude you are hauling the crude 400 miles almost past Toronto and then you are

going to have to haul a lot of the products back to Toronto, so your costs are going to be higher going there than if you were in the Toronto area.

MR. FRAWLEY? You take Canadian crude into Montreal at a laid-down price of 3.05, I understand.

MR. CAMPBELL: 3.24 is the figure we show.

MR. FRAWLEY: It is the Kuwait crude at 3.05.

MR. CAMPBELL: That is correct.

MR. FRAWLEY: And you have a cost in Clarkson of 3.47 for Alberta crude.

MR. CAMPBELL: That is correct.

MR. FRAWLEY: Now, can you tell me what would induce youto give up refining in Montreal when you can put crude in there at 3.05 and expand at Clarkson when it costs you 3.47?

MR. CAMPBELL: There is cost of moving the products from Montreal; in addition to that, our Montreal refinery is capable of using only small amounts of Kuwait crude. We have not the equipment there to use high sulphur-content crude.

MR. FRAWLEY: There may be 23¢ advantage over Redwater crude. What I can't understand is that you are considering setting aside any refinery expansion in Montreal and putting it in at Clarkson.

MR. CAMPBELL: Mr. Frawley, we have made broad economic studies of the balance between Clarkson and Montreal, and those economic studies indicate that we should extend the Clarkson refinery based on Canadian crude.

MR. FRAWLEY: With that kind of a market, on a crude oil cost of, say, 3.24 -- because you say that is the predominant crude, not the Kuwait crude -- with your predominant laid-in crude at a price advantage of 23¢ and with the same selling prices in the market for motor gasoline, kerosene and furnace oils, if you were able to operate at the same refinery spread at Montreal as you enjoy at Clarkson, you could pay more for Alberta crude at Montreal and still have no problem.

MR. CAMPBELL: There is the cost of moving products from Montreal up to Toronto.

MR. FRAWLEY: Why move them to Toronto if you are going to make them at Clarkson?

MR. CAMPBELL: We are making them at Clarkson.

MR. FRAWLEY: Why not let Montreal supply its natural refinery area and Clarkson its natural refinery area but substitute this higher-priced crude in Montreal, but it won't be any higher than your Clarkson laid-in cost, so why not simply adopt that situation?

MR. CAMPBELL: Are you suggesting that we should have expanded our Montreal refinery and used Canadian crude there rather than expand our Clarkson refinery?

MR. FRAWLEY: Yes, so long as you use Alberta crude.

MR. CAMPBELL: The major market is in the Toronto area, so we would be faced with moving Canadian crude to Montreal and the cost of moving the product back to Toronto. Our studies show that it is economic to refine it in Clarkson.

MR. FRAWLEY: You say that you intend to shut back some refinery expansion there, you will have to do that.

MR. CAMPBELL: You mean refinery crude runs?

MR. FRAWLEY: Yes. I think you used the words "refinery expansion" will have to be shut back, you will have less refinery expansion. I have a note that on page 47 you say that it would create surplus refining capacity inthe Montreal area, as well as surplus capacity in the Portland-Montreal Pipe Line. Then it goes on: The effect of this change in the supply pattern would, therefore, probably be some deferment of refinery expansion in the Montreal area". Don't you think that is something you should avoid if you can?

MR. CAMPBELL: I don't know that I follow you, Mr. Frawley. We have expanded our Clarkson refinery rather than our Montreal refinery.

MR. FRAWLEY: I put it to you that that sort of thing isn't going to be very acceptable to the people in Montreal or the Province of Quebec. What have you to say about that?

MR. CAMPBELL: Well, I don't think the product price increases either would be acceptable to the people of Quebec.

MR. FRAWLEY: Whether you have to increase the product prices would depend upon the relationship between the price of crude oil and the product price schedules.

MR. CAMPBELL: Yes.

MR. FRAWLEY: And if you do not have -- and that would depend on the size of the refinery spread. That is another way of putting it, isn't it?

MR. CAMPBELL: Yes.

MR. FRAWLEY: If you now have a satisfactory refinery spread at Clarkson, and if taking Canadian crude into Montreal will not give you any worse refinery spread than you have at present, why should the question of increasing prices in the Montreal area come into it at all?

MR. CAMPBELL: We have not calculated specifically on the refinery spread as you have indicated. We have looked at the picture from an

overall economic standpoint, considering all factors, what we get for the products, cost of operation, cost of freight and so on. All of those factors indicate the refining of Canadian crude at Clarkson, and that is what we have done.

MR. FRAWLEY: If you could put it in at 3.16, then you would have a 31¢ advantage in Montreal over Toronto, and I put it to you that that would suggest that the Montreal refiners would certainly be able to maintain their share of the Ontario market.

MR. CAMPBELL: Your 31¢, I presume, is arrived at by deducting 3.16 from 3.47.

MR. FRAWLEY: Yes.

MR. CAMPBELL: I don't know that the figures are comparable, because the 3.47 is using part of the exchange for the relationship between the laid-down price of imported crude at Sarnia and the price of Redwater crude.

MR. FRAWLEY: I thought that your figure of 3.47 is what it costs you (that is what your arrow shows on Exhibit 5) to put Redwater crude into Toronto.

MR. CAMPBELL: Well, Mr. Frawley, I am afraid this is going to open up another subject and it is going to complicate it.

MR. FRAWLEY: All Iwant to know is what does it cost you to take Redwater crude into Toronto?

MR. CAMPBELL: $3.37 is what it is costing us.

MR. FRAWLEY: Well, if you have to pay 3.37 at Clarkson and 3.16 in Montreal, why shouldn't that solve your problems? I am assuming that you can put it in at 3.16. On that assumption, for the purposes of my questioning.

MR. CAMPBELL: Well, before being able to specifically answer your question we would want to do some calculations on it, but I would just estimate that we still could not lay product into Toronto on that basis at a lower cost, using 3.37 for Redwater crude at Clarkson. That is, the cost of moving the product from Montreal back to Clarkson, or at least back to the Toronto area, would exceed the difference between the two crude costs that you quote.

MR. FRAWLEY: Why would you have to do anything of that sort if you had crude into Montreal at 3.16 and crude into Toronto at 3.37? You would be supplying part of Ontario out of Toronto and part of Ontario out of Montreal.

MR. CAMPBELL: We would certainly be supplying from our Clarkson refinery and some distance east of Toronto, and the product would move some distance west out of Montreal.

MR. FRAWLEY: What does it cost to move products from Montreal to Toronto?

MR. CAMPBELL: Well, again this is a very difficult matter to answer.

MR. FRAWLEY: You are doing it every day,

are you not?

MR. CAMPBELL: We are doing it every day -- no, we are not, I am sorry.

MR. FRAWLEY: I meant from Montreal to Toronto. What does it cost you to move products from Montreal to Toronto?

MR. CAMPBELL: We are not moving any products from Montreal to Toronto. Our cost is one-third of the fixed cost, and our proportionate share of operating cost.

MR. FRAWLEY: Last year you moved -- I don't care whether you are today; I want to know what it cost you last year to move product from Montreal to Toronto over Trans-Northern?

MR. CAMPBELL: I don't think we have those figures with us, Mr. Frawley.

MR. FRAWLEY: Well, if there is nothing confidential about it - - -

MR. CAMPBELL: We will file that information with the Chairman, but again - - -

MR. FRAWLEY: Well, of course, just a minute: when you say that you will file it with the Chairman, I am excluded; so, can you not file it in any other way than confidentially with the Chairman?

THE CHAIRMAN: Perhaps we could take a ten-minute break, Mr. Frawley, if that would not interrupt your line of reasoning too much.

---A short recess.

THE CHAIRMAN: The hearings will now be resumed, gentlemen.

Mr. Reporter, would you read back that last question?

THE REPORTER: "MR. FRAWLEY: I want "to know what it cost you last year to move "product from Montreal to Toronto over Trans-"Northern."

MR. FRAWLEY: Can you give us that answer now?

MR. CAMPBELL: We don't have those figures with us.

MR. FRAWLEY: Will you file them in the form of a memorandum with the Secretary, rather than with the Chairman?

MR. CAMPBELL: No, we would prefer to file those with the Chairman, Mr. Frawley.

THE CHAIRMAN: Mr. Campbell, do you not have a tariff on that line which, if I were a customer, or if I wished to ship product from Montreal to somewhere along the line, would you not have a published tariff?

MR. CAMPBELL: We have a contract customer for whom we are moving product from Montreal to Toronto.

THE CHAIRMAN: Another customer would know that tariff.

MR. LOUGHNEY: We will make that available to another customer who wished that.

THE CHAIRMAN: Would that be such confidential information that would do you any harm?

MR. CAMPBELL: No, we will file that information with the Commission. As a matter of fact, we do not have the figures with us. From memory only, Mr. Frawley, I believe the figures would be 41 3/4¢ from Montreal to Toronto.

MR. FRAWLEY: What is this 41 3/4?

MR. CAMPBELL: For the movement of the product from Montreal to Toronto.

MR. FRAWLEY: Let me be clear now.

MR. CAMPBELL: 41 3/4¢ per barrel.

MR. FRAWLEY: 41 3/4¢ per barrel of products to move from Montreal to Toronto?

MR. CAMPBELL: That is right.

MR. FRAWLEY: Now then, I am a little confused. What was the information that you were suggesting you would only file with the Chairman, just that 41¢ you are telling us now?

MR. CAMPBELL: No, Mr. Frawley. Our cost per barrel for British-American movements over that line will depend on the number of barrels we move. Actually we are being penalized at the present time in the movements we are making

on Trans-Northern because we are paying one-third of the total fixed charges for the line plus our proportionate share of the operating costs.

MR. FRAWLEY: Yes. What is this 41 3/4¢ then?

THE CHAIRMAN: Perhaps I can explain that matter, Mr. Frawley and Mr. Campbell can say whether he agrees or not. That would be the tariff charged to Mr. Frawley if he were going to ship a barrel of product from Montreal to Toronto.

MR. FRAWLEY: Is that the situation?

MR. CAMPBELL: That is correct.

MR. FRAWLEY: Is that a tariff that has been filed with someone?

MR. LOUGHNEY: No, it has not been. That is a contract agreement between Trans-Northern Pipe Line and the company who is shipping over the line and Trans-Northern is operating in the capacity of a common carrier.

MR. FRAWLEY: That represents to Trans-Northern Pipe Line Company a fair tariff, a fair rate to charge for a barrel of products from Montreal to Toronto.

MR. LOUGHNEY: That is correct.

MR. FRAWLEY: What you say is that you would prefer to file with the Chairman something better than that because you,as a part owner, are on a cost basis.

MR. LOUGHNEY: No, we do not say we do

better than that. At the present time we probably would not be doing as well.

MR. FRAWLEY: You would do worse than that? You would move my barrel for cheaper than your own?

MR. LOUGHNEY: On the barrels that we ship over the distance that we ship on the part of the system that we use -- because we do not use the system between Montreal and Toronto so our cost per barrel would be higher yes.

MR. FRAWLEY: I see, but anyway the public's rate, you say, is 41 3/4¢.

MR. LOUGHNEY: If Trans-Northern publish a tariff. Every barrel moved over the line would move at that public rate and the rate as presently computed is the rate Mr. Campbell has given.

MR. FRAWLEY: I do not think that we ought to pursue this when we have so much to do but you are a pipeline moving in interprovincial trade.

MR. LOUGHNEY: Yes sir.

MR. FRAWLEY: You are therefore subject to the jurisdiction of the Board of Transport Commissioners.

MR. LOUGHNEY: Yes, sir.

MR. FRAWLEY: But nobody has asked you yet to file any tariffs.

MR. LOUGHNEY: That is correct.

MR. FRAWLEY: I want to discuss with you for a moment the relationship between Montreal and Toronto and if you can follow me please with these figures.

There is now a capacity at Montreal of 255,000 barrels. I think that is your own figure on page 46. But you probably know that, do you, without having to refer to the page? Yes, there it is at the very top of page 46. That is correct?

MR. CAMPBELL: Yes.

MR. FRAWLEY: It is proposed by BP to add to that capacity by 30,000 barrels a day? Correct?

MR. CAMPBELL: So we understand.

MR. FRAWLEY: By Fina by way of expansion of another amount of 10,000 barrels a day; right?

MR. CAMPBELL: Yes.

MR. FRAWLEY: From that you will quite soon have a total capacity in Montreal of 295,000 barrels a day.

MR. CAMPBELL: That is correct.

MR. FRAWLEY: What you say on schedule 6 is that the Montreal refinery demand will go down in 1962 to 222.6 thousand barrels a day.

MR. CAMPBELL: That is right.

MR. FRAWLEY: That is Montreal. Now, we go to Ontario. There is a capacity now of 45,000 barrels a day; correct?

MR. CAMPBELL: I think that is correct, Mr. Frawley. I will accept that.

MR. FRAWLEY: And Canadian oils are intending to increase that by 20,000 barrels a day.

MR. CAMPBELL: Yes, I have seen some

information.

MR. FRAWLEY: And Cities Service by 20,000 barrels a day.

MR. CAMPBELL: Yes.

MR. FRAWLEY: And Regent by 14,000 barrels a day.

MR. CAMPBELL: Yes, I think it is - - .

MR. FRAWLEY: So that will give us a refinery capacity in the Toronto-Hamilton area of 265,000 barrels a day.

MR. CAMPBELL: I think that figure includes the Sarnia area as well.

MR. FRAWLEY: But you say the demand will go up in 1962 to 308,000 barrels a day. That is somewhere in your figures.

MR. CAMPBELL: Yes, I believe - - .

MR. FRAWLEY: That is right, is it not? So there would be 40,000 barrels a day added to the present Ontario capacity, is that right?

MR. CAMPBELL: That would be required.

MR. FRAWLEY: Mr. Campbell, my question is pretty obvious: would you tell the Commission where the economic wisdom is of increasing the capacity in the Toronto-Hamilton area by 40,000 barrels a day so that you can idle 70,000 barrels a day in Montreal?

MR. CAMPBELL: Well, Mr. Frawley, it comes back again to the market being -- the major market

being in the Toronto-Hamilton area and the relative cost of moving that crude to Montreal and moving the products back to where the market is.

MR. FRAWLEY: Now, I want to go to something else. Mr. Lilley of McColl-Frontenac tells us that he thought that the tri-State area was a good one, quite a good one, a good place to look for some expansion of our crude market. Do you know that he said that? If you do not, would you take it from me that is what he said?

MR. CAMPBELL: I will take it from you that is what he said.

MR. FRAWLEY: Now, this just indicates that opinions differ because we go to page 15 of your brief and you say: "At all three levels --", at the end of the page: "At all three levels of export demand it has been assumed that the export market in the Mid-Western United States will remain constant throughout the forecast period, at the level of demand of 60,000 barrels per day anticipated for 1958. This assumption is based on the fact that there have been no announced plans for new refineries in the area."

That only means that is your honest opinion after your survey of the situation.

MR. CAMPBELL: That is an assumption we made in calculating these figures for presentation to the Commission.

MR. FRAWLEY: If Mr. Lilley put on the record what I am instructed he did put on the record, he also had his honest opinion after he made a survey.

MR. CAMPBELL: I would assume so.

MR. LOUGHNEY: Just a moment. May I read the next paragraph on page 16?

MR. FRAWLEY: I hope this is not one of these cases where I overlooked reading a part.

MR. LOUGHNEY: "As will be explained later in this submission, Canadian crude oil has a competitive advantage in the Superior and St. Paul-Minneapolis areas. While quota restrictions on imports may limit the volume of Canadian crude oil moving into this area in the immediate future, over the longer term there is every reason to expect a substantial growth in this export market in excess of the present level of demand of 60,000 barrels per day."

Again on page 19: "In the St. Paul-Minneapolis area, again, by reason of its relative proximity and established pipeline connections, Canadian crude oil is in a strong competitive position in the St. Paul-Minneapolis area of the Mid-Western United States.

The major portion of the product demand in this area is supplied by products shipped there by pipeline from refining centres to the east and south.

Even in the face of this competition from pipeline products, Canadian crude oil has established itself in this market. The largest refinery in the area was constructed expressly to take advantage of the accessibility and price advantage of using Canadian crude oil.

Moreover, because of the remoteness of the St.Paul-Minneapolis area from Tidewater sources of supply, the competitive position of Canadian crude is reasonably assured."

MR. FRAWLEY: But what I am calling to your attention, Mr. Loughney, is that at the bottom of page 15 you told the Commission that you were using that figure of 60,000 barrels a day throughout all of your calculations.

MR. LOUGHNEY: That is correct. We stated -- we assumed the 60,000 barrels a day because that is the assured market that we can see ahead of us. We already have it, as a matter of fact but that does not discount the future possibilities on the long-term basis for further expansion in the area as Mr. Lilley just stated what he called the tri-State area.

MR. FRAWLEY: When you are talking about "near-term" and "long-term", I am considerably interested in those words from the standpoint of the independent oil producer in Alberta. Do you agree with me, Mr. Loughney and Mr. Campbell, that these expressions "near-term" and "long-term" are

purely relative.

MR. LOUGHNEY: I don't think -- I think what you are trying to say is that there is no hope in sight for the present. Is that what you are referring to?

MR. FRAWLEY: No, I am only trying, if I can, to analyze with you for just a moment the meaning of these words "near-term". I suggest to you it has one meaning for the major international oil company and it has quite a different meaning for a small independent Alberta oil operator. What do you say about that?

MR. LOUGHNEY: Well, I say that we all need income to keep our business going. We hurt just as bad in some spots as some other people.

MR. FRAWLEY: I will take you right up on that answer, Mr. Loughney. I say that you do not need it nearly as badly with your millions and millions behind you -- you do not need it nearly as bad as the small independent oil operator needs it.

MR. LOUGHNEY: That is your opinion.

MR. FRAWLEY: That is right.

MR. LOUGHNEY: I do not necessarily agree with it.

MR. FRAWLEY: Well, surely, surely, there is a difference in the capacity to wait out this present situation. Surely you are far better able

to do it with Gulf behind you than Kolata Oils I mentioned the other day.

MR. LOUGHNEY: What we have attempted to say in this brief and apparently we have not done too good a job on it, is that we are not waiting it out. We are trying to do something about it. We think we have done something about it as far as marketing further demands in the Toronto area. As a company we feel that we are doing a credible job. We have reduced our imports at Montreal. We have increased our takes in Ontario. We do not feel that this long-term or near-term is something that is away into the future -- I should say the long-term. We think that there is going to be improvements in Canada in the latter half of 1958 as this long-supply inventory position is corrected. We think that there will be a gradual improvement.

MR. FRAWLEY: Mr. Loughney, you said you were trying to do a good job.

MR. LOUGHNEY: Yes.

MR. FRAWLEY: The last impression I want to leave is I think that B-A is not trying to do a good job. Let us be clear about that.

MR. LOUGHNEY: Thank you, sir.

MR. FRAWLEY: What I am talking about is that when you are talking about our having more export coming from the United States, more export coming here, I say you are up against a policy in Washington now that makes that exceedingly difficult.

What do you say about that?

MR. LOUGHNEY: Well, we have, in our recommendations, M . Frawley, suggested that discussions at high levels between the respective governments of Canada and the United States are certainly in order, and that may be one way to correct the situation.

MR. FRAWLEY: Well, you see, discussions between the Prime Minister of Canada and the Administration in the United States, the difficulty about that is that the Administration in Washington is separated from the Congress, isn't it?

MR. LOUGHNEY: Yes.

MR. FRAWLEY: And it is what Congress wants to do that is of importance in the United States?

MR. LOUGHNEY: That is correct.

MR. FRAWLEY: And you know perfectly well, whether you subscribe to the Independent Petroleum Association of America monthly or not, you know that there is a tremendous effort being made every day to keep foreign oil out of the

United States.

MR. LOUGHNEY: There is opposition the other way, too, you know.

MR. FRAWLEY: Where is the opposition coming from? The majors?

MR. LOUGHNEY: That's right.

MR. FRAWLEY: But, at the moment, the independent operators, aided and abetted, apparently, by the Sun Oil Company, at the moment have the upperhand, haven't they?

MR. LOUGHNEY: Well, at the moment I think the upperhand is that, in fact, there is just more crude oil than anybody knows what to do with. Whether the independents or the majors have it, you can guess for yourself; but I think the majors have the larger part of it.

MR. FRAWLEY: Whatever it is, Mr. Pew, the president of Sun Oil, thinks that it is supplanting, not supplementing, the domestic supply over there. A lot of people think the way he thinks.

MR. LOUGHNEY: I am sure they do.

MR. FRAWLEY: And that is why we have these Bills in Congress now, seeking to turn the voluntary restriction into a mandatory restriction?

MR. LOUGHNEY: That is right.

MR. FRAWLEY: I put it to you, as a matter of immediate fact, that the independent

Alberta producer has a pretty hard time, and a much harder time than you have, keeping his spirits up, when 65 per cent of his product is shut back.

What do you think about that?

MR. LOUGHNEY: Well, there has been no discrimination as far as the cutbacks are concerned. The pro rationing system that we have in Alberta has made us all share and share alike.

MR. FRAWLEY: It is a good system.

MR. LOUGHNEY: It works very well, right now.

MR. FRAWLEY: We did not want it, you know. The industry foisted it on us, didn't they?

MR. LOUGHNEY: Well, we like to be fair about these things.

MR. FRAWLEY: Let me put this question to you, Mr. Loughney:

If the United States oil companies with interests in Alberta are not concerned with taking our crude oil in greater quantities, anyway, than they are now taking it, certainly they are not making any special effort to get it -- first of all, I think that is a fair statement, surely, that the United States oil companies with interests in Canada are not making any special efforts, as refiners, to take our crude oil.

Now, is that correct?

MR. LOUGHNEY: Well, there has been some

evidence submitted before the Commission in the last week which would indicate otherwise.

MR. FRAWLEY: In the Puget Sound, you mean?

MR. LOUGHNEY: Yes.

MR. FRAWLEY: There have been some expressions of what they hoped to be able to do. In fairness to the Shell Oil Company, what they said here, which was not in accord with the information they filed with the Texas Railroad Commission -- and I am certainly willing to accept what the president of that company told us here -- you are quite right about that.

MR. LOUGHNEY: And I believe Mr. Lilley made a similar statement, for the Texas Company.

MR. FRAWLEY: Yes, he said he was going to take some percentage of crude for the Puget Sound.

I put it to you that if that is the situation there that Canada need not be very solicitous about shutting back Venezuelan crude produced by thos integrated companies like Gulf and Jersey and Texas.

What do you think?

MR. LOUGHNEY: Mr. Frawley, I agree with you that there is opposition -- I think that is what you are suggesting -- to taking Canadian crude in the United States. I think they have a situation

there of long supply that must be corrected first before they can look for imports, and I believe that the Independent Producers Association in the United States -- I correct that: it was the State of Texas Legislature that suggested that there should be, say, a favoured-nation granted to Canada on the imports of crude.

In other words, they favoured treating Canadian crude differently to other crudes, so I think, by and large, you will find that the United States refiners and the producers look forward to Canadian crude coming into the United States in larger quantities when conditions in the United States will permit it.

MR. FRAWLEY: Yes, but, you know, perhaps that would be a good thing to put to you now. You know, Mr. Loughney, here is the way I sum up your attitude to this question:

Montreal is a sure market, it is in our own country and we know the size of it and, to that extent, it could be described as a sure market. But, in your opinion, it is rather difficult to get there, economically.

That is, perhaps, not an unfair way to describe, shortly, your view about the Montreal market?

MR. LOUGHNEY: We consider it inadvisable and, in view of the economics as we see it ---

MR. FRAWLEY: You say that while it is a sure market it is economically difficult to get there, even though it exists there and there are no legislative restrictions to your getting there.

MR. LOUGHNEY: It is more than building a pipe line, you understand. That is just one cost consideration. There is a great deal of development work that must be done, a great deal of new reserves that must be discovered to support 330,000 barrels per day.

MR. FRAWLEY: I am glad you said that, Mr. Loughney, because, if you don't mind, my comment on it is, and I put it to you seriously, that that is a very fine thing and that the national interest will be well served by the extra millions that must be expended if we build a pipe line to Montreal.

Did that strike you?

MR. LOUGHNEY: Yes, it did, and may I add a word?

MR. FRAWLEY: You may have several words; I mean, as far as I am concerned.

MR. LOUGHNEY: We think that the steady and healthy crude oil situation in the industry is very desirable, but we are concerned that when we try to increase our reserves too rapidly that the cost of replacement barrels becomes higher and it is a matter of a diminishing return, as far as the producer is concerned.

MR. FRAWLEY: Just one further point, perhaps, before I pass to my final question:

The Portland-Montreal pipe line, of course, is a deterrent to our crude getting into the Montreal market, isn't it?

MR. LOUGHNEY: Well, a deterrent in what way?

MR. FRAWLEY: Well, it is a pretty convenient facility to get Venezuelan crude up into Montreal.

MR. LOUGHNEY: Well, to the refiners in the Montreal area and the consumers of products in Quebec it has been a very fine thing.

MR. FRAWLEY: Oh, yes, I am sure it has, but it enables you, when you are making up your figures, to show an extra disadvantage, understandably so, against Alberta crude.

MR. LOUGHNEY: Yes, and quite properly so.

MR. FRAWLEY: I am wondering why the products line from Montreal up into Ontario has not been a deterrent to the Montreal refiner for expansion in Toronto, whether he is a Montreal refiner -- they seem to be in both places -- but why is that not a deterrent to the Toronto refiner trying to expand?

MR. LOUGHNEY: Well, I don't quite follow you.

MR. FRAWLEY: Isn't the Trans-Northern pipe line a deterrent to the Toronto refiner seeking to extend his market eastward?

MR. LOUGHNEY: Well, it can be reversed and will be reversed in 1962.

MR. FRAWLEY: According to your prognostications; but, at the moment, it is a deterrent, isn't it?

MR. LOUGHNEY: We are not using that section of the line, but three other companies are.

Does that answer your question?

MR. FRAWLEY: Yes, as to one company that is using it, it is, perhaps, a deterrent.

Now, you told us yesterday you had some long-term contracts with the Mene Grande Company, the Gulf subsidiary,for supply.

MR. CAMPBELL: Yes.

MR. FRAWLEY: One ending in 1964 and one ending in 1966?

MR. CAMPBELL: 1965 or 1966.

MR. FRAWLEY: You regard those as being justifiable contracts for a refiner to make with those suppliers?

MR. CAMPBELL: Yes.

MR. FRAWLEY: No doubt about that. I am wondering why it would not be equally unobjectionable, I put it at its worst, for those Montreal refiners to enter into similar long-term contracts with the

Edmonton-Montreal pipe line. If it is good in one place, why isn't it good in another?

MR. LOUGHNEY: Where does the Edmonton-Montreal pipe line get its crude?

MR. FRAWLEY: I don't think there is any other place to get it than from the Alberta fields.

MR. LOUGHNEY: Are you going to enter into long-term contracts with producers?

MR. FRAWLEY: I put it to you the way you are putting it to me. I say if long-term contracts for Venezuelan crude is a good thing, what is bad about long-term contracts with Alberta producers?

MR. LOUGHNEY: Nothing bad about it.

MR. FRAWLEY: I thought that somebody indicated here that that would be something that was not very good.

Now let me finish up by putting what I started to put to you a moment ago: as I see your solution, you say that we should not go to Montreal because, while there are a lot of barrels of crude refined there each year, it is somewhat economically difficult to get there.

Is there anything wrong with that as a broad, general statement?

MR. LOUGHNEY: All right.

MR. FRAWLEY: Then you turn and say the

solution really is to seek (I am leaving aside the Ontario market; we have said all we can say about that, I think, the pros and cons of it), but I would say, in parenthesis, and you would agree with me, that that is more or less our legitimate objective. Nobody should try to take the Montreal market away from us, with the Interprovincial refinery already in there.

That is fair enough, isn't it?

Did I say "Montreal"? I mean Toronto.

MR. LOUGHNEY: Yes.

MR. FRAWLEY: That is a perfectly reasonable objective on the part of the Alberta producer to take the Toronto market and any warranted extension from Toronto and all of Ontario, because of the physical fact that Interprovincial is already tied in.

But, as to your export from Puget Sound and the Middle West, you put it, I say, to us, that the economics indicate that it is easy to get there, that is correct, to Puget Sound and the Middle West, but that nobody knows when we would get there.

MR. LOUGHNEY: Well, we are already there, as far as a pipe line is concerned, and we are already there as far as markets are concerned.

MR. FRAWLEY: But we are not there to any very large extent in the number of crude

oil barrels going in there?

MR. LOUGHNEY: Well, we have given the numbers here in the brief.

MR. FRAWLEY: I say what is wrong with your looking to the export market is that as far as anyone can see today, the import restriction programme seems to be getting darker instead of brighter.

Isn't that what seems to be the situation?

MR. LOUGHNEY: No, I don't agree with that, Mr. Frawley.

MR. CAMPBELL: Mr. Frawley, may I interrupt for a moment?

MR. FRAWLEY: Yes.

MR. CAMPBELL: One of my associates here has pointed out to me that the Kiard Bill is before Congress at the present time and that puts the allocation quotas in the President's hands. You were referring to Congress a few minutes ago. I am not too familiar with it, but I will certainly inform myself about that.

MR. FRAWLEY: I sent off last night to Washington for a copy of that.

The independent petroleum people seem to like it, so I am just wondering how good it is for us,if they like it so much.

That is all, thank you.

THE CHAIRMAN: Mr. Loughney, have you

or your colleagues got with you a copy of the last annual report of the Union of California?

MR. LOUGHNEY: I am afraid we haven't.

THE CHAIRMAN: Is that very difficult to obtain?

MR. LOUGHNEY: I think we can obtain one, yes, sir.

THE CHAIRMAN: Could you let us have a copy as soon as you can get it?

MR. LOUGHNEY: Yes, sir.

THE CHAIRMAN: Would you tell me: are the accounts of your American subsidiary consolidated with its parent company?

MR. LOUGHNEY: Yes, they are.

THE CHAIRMAN: Is the subsidiary required to file a balance sheet and profit and loss statement with any public body in the United States?

3 MR. LOUGHNEY: It may be filed with the Securities and Exchange Commission in the United States, but we are not certain of that.

THE CHAIRMAN: Would you have any objection to filing it with the Commission?

MR. LOUGHNEY: No, we will file a copy.

THE CHAIRMAN: Thank you.

Mr. Loughney, what would be your view with respect to Canada's over-all reserve situation in the event that Canadian crude did supply the Montreal market (assuming, for a moment, that

it does) and also the export situation develops? I know we have had the charts, but do you really feel it would impinge on our reserve situation as time went on, that it would be a bad thing?

MR. LOUGHNEY: As far as the reserves are concerned, Mr. Chairman, we feel that there are ample reserves in Canada to take care of that demand. Our concern deals more with the speed of development than it does in the developing of that large a reserve. In other words, it would put industry in a forced position to develop the reserves and deliverability that would be required within the period of time, if a pipe line was built.

THE CHAIRMAN: But I think I put this question in substance to Mr. White. The further production which would be required in Western Canada of Canadian crude to meet the demand in Eastern Canada in the event of a pipe line going to Montreal would greatly stimulate the further drilling and exploration of oil in Western Canada.

MR. LOUGHNEY: That is true. Let me see if I can answer you this way. Since the beginning of the industry in Canada we have discovered 3.5 billions of virgin reserves. In order to build up the reserves to provide the deliverability, we would need, under the Case 2C, which we describe, which would be the export market plus the Montreal market, 6.7 billion barrels, which is greatly in excess of what we have discovered today, and that would have to be done in a relatively short period of time. We have estimated the cost of developments, and we feel that that would be a major undertaking, no question about it, to the industry. I think a good steady growth in the industry is a good thing, certainly from our selfish interest and the interest of others. But to develop that quickly will add, we think, to the replacement cost of reserves; and, furthermore, the prices to the industry are again in a position of jeopardy to the extent that our markets were built very quickly and then we

reached a recession period, a period of over-supply, and then the industry is in trouble.

We think the same thing could happen again. We built these big markets in Canada and in the United States, and, as in the past, we have reached a period in which our economy is not as good as it has been, and the question is, what happens to our demand? The next time could be very much more serious than this.

THE CHAIRMAN: Wouldn't that trouble be greater and the impact be much greater if it were a matter of exports being cut off rather than the gradual decrease in demand in a domestic market? Wouldn't the impact on the industry be less from the latter than from the former?

MR. LOUGHNEY: Well, we matched that up with our position in the U.S. Last year the United States added more reserves than they consumed, and 1967 we believe is now considered to be the peak year of production in the United States, and then the United States will become dependent on sources of crude other than their own. So the situation in the United States should be looked upon, in our judgment, as a favourable market area for crude.

THE CHAIRMAN: But it is an uncertain area, isn't it?

MR. LOUGHNEY: It is uncertain at the

present time, but unless something happens in way of discoveries in the United States, which is completely unforeseen at the present time, it is a market which will become more certain in our judgment.

THE CHAIRMAN: As far as Canadian crude or as far as importations into the United States is concerned?

MR. LOUGHNEY: If imports are made into the United States we think it applies equally to Canadian crude because of the proximity of the crude. I am speaking now of the mid-western parts of the United States and the west coast area.

THE CHAIRMAN: I think that, while you make that statement, you would probably agree with me that -- I put these words into your mouth -- it could but would not necessarily?

MR. LOUGHNEY: Well, it could and, as near we think, it will.

THE CHAIRMAN: But Canada would be then depending upon the political stresses and economic policies of a foreign country, friendly though she may be. That is correct, isn't it?

MR. LOUGHNEY: Yes, sir.

THE CHAIRMAN: Am I correct in assuming from an answer you gave to Mr. Pattillo that as far as B-A is concerned nothing would be gained by the industry at the present time getting together

to try to increase the use of Canadian crude short of a Montreal market? I got the impression from an answer you gave to Mr. Pattillo that you didn't think there would be much gained in the industry getting together at this time to see whether Canadian crude could be utilized more extensively, quantitatively, in Canada, that British-American is doing all it could, and that was all. Am I correct?

MR. LOUGHNEY: Well, I don't believe I said quite that. There is an excess of refining capacity in the Ontario market, and to the extent that that could be utilized it would create a further demand for Canadian crude. As far as we as a company are concerned, we feel that we have gone as far as we can in utilizing the crude. We built Clarkson refinery up to the largest extent to refine products.

THE CHAIRMAN: So you would feel as a company there is nothing further you could do physically in that regard?

MR, LOUGHNEY: Well, it could be done physically, yes; we could move crude further east from our Clarkson refinery into the M ntreal area -- our products, rather -- but it would be rather expensive.

THE CHAIRMAN: Don't you think that by

sitting down and talking with other members of the industry frankly and fully on this problem the British-American would have a contribution to make to a solution of the overall problems?

MR. LOUGHNEY: Yes, we could, I believe.

THE CHAIRMAN: And you would not be averse to that?

MR. LOUGHNEY: No, we would not be averse.

THE CHAIRMAN: If there were no legal complications involved?

MR. LOUGHNEY: Yes.

THE CHAIRMAN: I didn't think your answer this morning was quite clear on that. There is no hesitation on your part to cooperate with other members of the industry in reaching a solution in this regard.

MR. LOUGHNEY: That is right.

THE CHAIRMAN: Although it may be only a temporary solution.

I am hopelessly confused on this refinery operation. I don't know whether I blame Mr.Campbell and Mr. Pattillo or Mr. Frawley. In any event, I am confused. I gather that the major market for Montreal products is in the Toronto area.

MR. CAMPBELL: It is certainly a major market.

THE CHAIRMAN: The major market, certainly as far as your refined products in Montreal are

concerned.

MR. CAMPBELL: It was, but I think we have indicated that we are now supplying that market from Clarkson.

THE CHAIRMAN: And notice has already been given to those other refiners; is that correct?

MR. LOUGHNEY: Yes, that is correct. The two refiners that are presently shipping into the Toronto area over the line will ship products out of the Toronto area.

THE CHAIRMAN: Let's assume a pipe line built to Montreal. Would there be any disturbance to refining operations in the Toronto and Hamilton-Great Lakes area, Sarnia or any disturbance in the Montreal area. Would it not be simply a replacement of crude from one source of crude to another? I realize your tanker problem, I realize your Portland-Montreal pipe line. Let us leave those out of it and let us assume for the moment, not saturation of the Montreal market, say, a pipe line with a capacity of 200,000 barrels per day. What would happen to your refinery operations in Montreal and the Great Lakes? Would it make any difference?

MR. CAMPBELL: With 200,000 barrels per day, Mr. Borden, there would still be imported crude coming into Montreal or some of the refinery capacity in the Toronto area might be reduced. It

would depend on the overall balance.

You have in mind that refineries would not be constructed. For instance, the Shell refinery which is being proposed for Bronte, that conceivably might not be built if crude was going into Montreal.

THE CHAIRMAN: Tell me why, Mr. Campbell?

MR. CAMPBELL: Because of the possibility of idling refining capacity in Montreal of Shell. We don't know what their position would be in that regard, but it could affect extension in the Toronto area.

THE CHAIRMAN: I don't follow that, because if you substitute 200,000 barrels per day of Canadian crude in Montreal for foreign crude, how does that affect your refinery runs? Assuming the information that the industry has given us in the last few days, it is just the same quality of crude.

MR. CAMPBELL: I was thinking from the British-American point of view if you laid Canadian crude into Montreal in the quantities that you have indicated. This would be based on the price of crude at Montreal and Toronto. The price of ~~1.36~~ 3.16 has been quoted for Redwater at Montreal. We don't accept that as being the laid-down price at Montreal.

THE CHAIRMAN: Assuming for the moment

that Canadian crude could be laid down at Montreal in a quantity competitive with the crude you are now proposing to bring in to Montreal, or on the same basis, would there be any change whatsoever in your refinery plans in the Great Lakes area or the Montreal area or would the industry be affected in any way?

MR. CAMPBELL: On the basis of 3.16 it might speed Montreal up and slow Clarkson down. If an independent pipe line was built which could lay crude into Montreal at 3.16, then the existing facilities laying it into Clarkson at 3.37 -- that might move the area a little bit between Montreal and Clarkson. But aside from that I don't think it would make any difference to our plans, Mr. Chairman.

THE CHAIRMAN: And, of course, if it were competitive, if the price were competitive to what the Montreal market is now receiving by way of foreign crude, surely it would make no difference whatsoever.

MR. CAMPBELL: No, but you still have the matter of moving crude to Montreal and the cost of moving it back to a major market in Ontario. From the British-American standpoint today, we would run the crude at the Clarkson refinery and other refiners would be faced with the additional cost of moving it to the Toronto market.

THE CHAIRMAN: So that you say the Montreal area has an excess of refining capacity if it were not for the much cheaper foreign crude that comes in there?

MR. CAMPBELL: That is right.

THE CHAIRMAN: But then the demand, with the exception of two or three years -- bring it down to 205,000 barrels -- goes up, and that would be rectified in due course?

MR. CAMPBELL: Yes. We, I think, indicate in our brief that we consider that would not be too serious a problem, that it would on our calculations idling capacity to the extent of 10 per cent or 15 per cent at the present time.

THE CHAIRMAN: Well, then, it has been said to the Commission that in considering the Montreal market one is turned back to the thought or suggestion that any pipe line to take crude, Canadian crude, to Montreal must be built by the government.

Now, suppose that were done -- and this is purely supposition -- presumably there would have to be this quota or embargo that has been talked about on the entry of foreign crude into the Montreal area or foreign crude in excess of whatever the difference might be between the Canadian crude that is taken there and the demand. Can you give the Commission your views as to what effect that

might have on the price.to the producer in Alberta under pro rationing?

MR. CAMPBELL: I would think, Mr.Chairman, that any quota or embargo or tariff might tend to stabilize the price at the producer's well, keep the price higher than if it were in unrestricted world competitive crude at Montreal.

THE CHAIRMAN: But it would not force the price up? Producers would sell, would they not, as long as their price was not below what they are getting under pro rationing?

MR. CAMPBELL: I would think so.

THE CHAIRMAN: They wouldn't hold back; they are very anxious to get rid of their oil, aren't they?

MR. CAMPBELL: I think it is quite apparent that that is so.

THE CHAIRMAN: How could the Maritime Provinces situation be dealt with in a situation of that kind? They would have to be permitted, so to speak, to bring in foreign crude unless this pipe line were extended down to Halifax.

MR. CAMPBELL: If the Maritime refineries were unrestricted it might make it tough for the refiners in the Montreal area because the refined products would probably move from the Halifax refineries up the St. Lawrence into the Montreal area.

THE CHAIRMAN: So that some sort of quota, presumably, under such conditions would have to be imposed on the eastern coast as well, would it not?

MR. CAMPBELL: I would think it would be uniformly applied.

THE CHAIRMAN: If they were, would refined products from the Maritimes move into the Montreal area?

MR. CAMPBELL: You mean if the restrictions were uniform?

THE CHAIRMAN: If they were uniform.

MR. CAMPBELL: If they were uniform I would think that the area being served today would not vary.

THE CHAIRMAN: And if there were any enlargement in the demand in those prospective markets the quotas could be adjusted accordingly, could they not?

MR. CAMPBELL: Yes.

THE CHAIRMAN: Could you give the Commission your views, in the event of such an occurrence, on the part which the industry itself might play in recommending or determining the quotas that will be properly applied and restrictions on importations of products and all that sort of thing? How should government go about determining the answers to those problems?

MR. CAMPBELL: Well, I think, first of

all, they would want to determine the problem that exists, and I would suggest that they would wish to consult with the industry on the matter.

THE CHAIRMAN: Well, industry would be certainly best qualified, wouldn't they?

MR. CAMPBELL: Yes, and I would think that under those circumstances the industry would certainly cooperate.

THE CHAIRMAN: Would there be in your opinion a great deal of administrative procedure that would have to be invoked and established in order to deal with a problem of that nature?

MR. CAMPBELL: I would think that there would be.

THE CHAIRMAN: Is that based on your knowledge of what has happened in the United States?

MR. CAMPBELL: Well, I have no first-hand knowledge of what has happened in the United States, Mr. Chairman. I think that any time you are getting into a matter of establishing a bureau and matters of that sort you are going to have substantial administrative costs.

THE CHAIRMAN: But price fixing would not be involved, would it?

MR. CAMPBELL: I would think not.

THE CHAIRMAN: Thank you very much.

MR. COMMISSIONER BRITNELL: Mr. Loughney, first with respect to the Canadian demand for

petroleum, I would appreciate it if you could clear up a couple of points that have been bothering me a bit.

On page 1 reference is made to a temporary levelling off in demand for petroleum products. What do you think might be or will be the duration of this temporary levelling off?

MR. LOUGHNEY: We have forecast an improvement in the second half of 1958.

MR. COMMISSIONER BRITNELL: That brings me to a fairly closely related question. Why should the refinery shut down to which you refer on page 9 of your brief be cited as an explanation for the lower level of production in 1958? I may be quite wrong, but I had the impression, picked up the impression somewhere that a refinery shut down for cleaning and reconditioning is pretty much an annual event.

MR. CAMPBELL: Dr. Britnell, I must admit that that is occasioned by statements. We have had published statements by some of our competitors that that has been the reason that their crude takes have been reduced.

MR. COMMISSIONER BRITNELL: What about your own crude takes?

MR. CAMPBELL: Ours have been increased.

MR. COMMISSIONER BRITNELL: Rather than decreased?

MR. CAMPBELL: By virtue of switching part of our requirement from Montreal to Clarkson, our takes have been increased.

MR. COMMISSIONER BRITNELL: I don't think we are talking about the same thing, perhaps. So far as B-A is concerned, let me put it this way: Do you have much variation from year to year as a result of these shutdowns?

MR. CAMPBELL: No, not normally, Dr. Britnell. This year we are taking longer shutdowns, and that is to correct an inventory situation.

MR. COMMISSIONER BRITNELL: Not for reconditioning?

MR. CAMPBELL: Well, we do recondition during that period. Let me explain it this way. We attempt to operate our refinery at as high a throughput as possible, and we will shut our refinery down for cleaning and reconditioning, we will work longer hours during the day and work weekends and that sort of thing; but this year we worked normal hours, and that explains the period of the shutdown.

MR. COMMISSIONER BRITNELL: You don't think there is the same urgency to get back into production as there may be in other years?

MR. CAMPBELL: Yes.

MR. COMMISSIONER BRITNELL: We have had a great deal in the press about the recent Alaska oil discoveries. There doesn't seem to be anything precise or definite about these discoveries. What effect do you think these discoveries might have on the prospects for Canadian crude in the Puget Sound area?

MR. LOUGHNEY: We don't really know too much about that yet. There have been only two wells drilled. The discussions we have had with companies who are much closer to that than we are have indicated it is a very high gravity crude and they look upon it as a more specialized type of crude rather than one that would be used in refinery requirements. However, it is much too early to attempt to evaluate what effect that might have on the Pacific Coast area.

MR. COMMISSIONER BRITNELL: It might conceivably be rather serious.

MR. LOUGHNEY: Well, there is always that threat.

MR. COMMISSIONER BRITNELL: Another point with respect to US markets. In describing the market outlet for Canadian crude oil in the St. Paul-Minneapolis area, you suggest, I believe, on page 16 and again on page 19, both of which you quoted a little earlier in an answer, I think, to Mr. Frawley, that

because this area is remote from Tidewater sources of supply the competitive position of Canadian crude is reasonably assured. What would be the effect of this Canadian competitive position if sizable oil reserves were developed in the Williston basin of the United States? What is your opinion of the future prospects of this United States oil region?

MR. LOUGHNEY: Well, I am not too familiar with that, except that there has been quite a bit of prospecting done in the Williston Basin in the United States in the past few years which has met with a measure of success, but we don't know now, and have no reason to believe, that there is going to be any change in the demand as far as those refineries are concerned for Canadian crude. That was designed, as you know, for a particular type of crude, and, again, you can't forget that a new discovery might change that. But we know nothing at the present time that would affect it.

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MR. COMMISSIONER BRITNELL: I am looking for some reassurance, some hope, that discoveries there might assist the development of that market. You don't see anything in the present situation?

MR. LOUGHNEY: No, not at the present time. Of course, a new discovery can change the entire outlook. For example, one of our competitive companies is seeking oil in eastern Canada at the present time, which could have a material effect on the situation in Montreal in the event they were successful in the discovery.

THE CHAIRMAN: It would make the pipeline look sick.

MR. LOUGHNEY: It certainly would.

MR. COMMISSIONER BRITNELL: One final point with respect to financing of exploration and discovery: last night, not exactly for want of something else to do, I was looking at the report of another Royal Commission (I would not call it an unimpeachable source) on the financing of the Canadian oil development program, and I was struck by the contrast -- and this is, incidentally, page 150 of John Davis' report on Canadian Energy Prospects -- and I was struck by the contrast of the source and disposition of funds employed in the petroleum industry in Canada as against the United States, and on page 2 of your brief you refer to "a temporary decline in

exploratory activity which may be due to insufficient revenue from production to finance further exploration". Now, Mr. Davis' information suggests that over a decade -- and admittedly it is not completely up to date; it is the 10 years from 1946 to 1955 -- a surprisingly large proportion of the funds for exploration in Canada, as against the United States -- and in sharp contract to the United States -- came from the sale of assets, of which we have had one illustration in the case of Imperial Oil, and also from parent or major interests rather than from retained earnings and other sources from which the American companies normally get that. Now, in practice, isn't it a fact that adequate funds are generally available as required from parent companies for Canadian exploration? Perhaps I should not say entirely from parent companies; from major interests outside companies.

MR. LOUGHNEY: Your question is that the subsidiary companies look to the parent company for funds with which to carry on development programs?

MR. COMMISSIONER BRITNELL: For a good deal of their funds to carry on, yes.

MR. LOUGHNEY: Well, that is undoubtedly true with some companies. It does not happen to be the case with British American.

MR. COMMISSIONER BRITNELL: Would you think in general that would be true, and that you are, perhaps, the exception rather than the rule.

MR. LOUGHNEY: Well, I don't know about the word "exception".

MR. COMMISSIONER BRITNELL: In that respect, I mean.

MR. LOUGHNEY: Well, companies starting in in Canada, yes, there is no question but what they had to depend on the parent company for funds, or otherwise raise the funds.

MR. COMMISSIONER BRITNELL: That is, certainly in the past, a very considerable part.

MR. LOUGHNEY: I think it is very true in the period you refer to, because that is the period of greatest exploration effort in Canada.

MR. COMMISSIONER BRITNELL: Do you feel that situation is changing at all?

MR. LOUGHNEY: Well, if the industry moves into the healthy situation we all hope it will, well, generally, in the producing end of the business, it is for us to generate enough funds to keep this going. That is a plan we try to follow.

MR. COMMISSIONER BRITNELL: Do you think Canadian companies could get finances for further exploration without help from the parent companies at the present time?

MR. LOUGHNEY: Well, we are.

MR. COMMISSIONER BRITNELL: What about purely Canadian companies -- and I am not suggesting you are not pure.

MR. LOUGHNEY: We are a little bit humble at times too.

MR. COMMISSIONER BRITNELL: What do you think about the position of a purely Canadian company? Perhaps I should wait until the next brief for that.

MR. LOUGHNEY: Well, maybe so.

MR. COMMISSIONER BRITNELL: You would rather not say. Thank you.

MR. LOUGHNEY: May I ask a question of you: were you referring to the type of expansion program that we visualize in attempting to build up reserves and deliverabilities to reach a portion of the Montreal market?

MR. COMMISSIONER BRITNELL: Yes, I had that partially in mind.

MR. LOUGHNEY: Well, yes, we feel that would be a major effort beyond the ability of companies to attempt to generate those funds, and would require outside funds, and we visualize in the proportions we are talking about -- $2½ million -- that a great part of those funds must come from sources outside of Canada.

MR. COMMISSIONER BRITNELL: Thank you.

MR. COMMISSIONER HARDY: Mr. Chairman, one or two questions along the same line that have been put to Mr. Loughney, not really as representative of B-A, but in view of the long experience you have had, Mr. Loughney, in the exploration business. I find it difficult to rationalize what has gone on in the last few months with exploration reservations up in the Mackenzie Valley, for example, where some 22,000 square miles have been broken up, as having anything to do with incentives that are generated by the present market position in Canada.

MR. LOUGHNEY: Well, that is a very long-term play. Does that answer your question?

MR. COMMISSIONER HARDY: Well, the people taking up those reservations are not thinking economically in terms of lifting cost to meeting present market conditions; it is a different breed of economics altogether.

MR. LOUGHNEY: I am quite sure it will be, yes. All the economics we know of that have been operating in central Alberta would be quite different if oil is discovered ---

MR. COMMISSIONER HARDY: No, I am not thinking in terms of finding oil.

MR. LOUGHNEY: You are talking about lifting and producing.

MR. COMMISSIONER HARDY: No, the man who

goes in and takes up those reservations: what are the economics of that?

MR. LOUGHNEY: Why are they taking land at the present time?

MR. COMMISSIONER HARDY: Well, how do they justify expenditures on very extensive exploration in the Mackenzie Valley in view of the world market situation for petroleum products now, and in view of the situation of the present producers in Canada?

MR. LOUGHNEY: Well, it is a long-term play, and it is a question of getting land when land is available.

MR. COMMISSIONER HARDY: In figuring lifting costs, isn't it one thing entirely to figure the lifting costs, that if you are bidding for proven reserves as compared to going into the business of taking up exploration reservations?

MR. LOUGHNEY: Well, I do not want to be facetious, Mr. Hardy, but we try to conduct our operations, to the extent that we can, on pure economics, but the oil business is such that once in a while we have to romance a little bit, and the most valuable asset to an oil company is its land position and its reserves, and this is one of those plays, on the long haul, looking into the future, when again we are always trying to

supplement our reserves. It is in an area where companies are prospecting, and it is a matter of getting positions in that area when land is available. I don't see any immediate developments other than the exploration type of development -- if that is your question.

MR. COMMISSIONER HARDY: I am just trying to get educated a bit here. To come at it a little differently, I can see how, if you are preparing a bid today for proven area -- proven reserves -- that in preparing that bid you would take into account the immediate market condition?

MR. LOUGHNEY: Yes, we would.

MR. COMMISSIONER HARDY: And the market condition would have a distinct incentive as to what you would bid and what money you would figure you would be prepared to spend on drilling the so-called proven reserves; but if you come to taking up exploration reservations in the Mackenzie Valley, you cannot be thinking in financial terms at all; you must be thinking in terms of a much longer period?

MR. LOUGHNEY: Well, that is right. We are thinking in terms of many years down the road when we will have to go further and further afield to find reserves.

MR. COMMISSIONER HARDY: Can you give me a rough figure, for example, of the percentage of producing money that is spent on proven reserves as compared to what is spent in Wild-Cat.

Nothing too exact, just a round figure.

MR. LOUGHNEY: We have, in our brief, which was submitted before the Commission on gas in February, we filed as an exhibit to that brief Exhibit No. 5 which is a cumulative -- a statement of cumulative costs of the industry from 1947 through to 1957 and it breaks the expenditures down to exploration cost, development, drilling, production expenses and income. I believe that is the information for which you are looking.

MR. COMMISSIONER HARDY: One final question, Mr. Loughney. Are there any of the larger so-called integrated companies that are operating on the basis of only buying proven reserves as compared to engaging in exploration or are they all in both aspects of the business?

MR. LOUGHNEY: Well, just relying on memory I believe they are all on both sides of the fence. I cannot recall any that - - .

MR. COMMISSIONER HARDY: You could not

take a chance and simply say or take the position we will only put our money into proven reserves and let someone else do the exploration.

MR. LOUGHNEY: Well, we buy proven reserves but we will also do wild-catting endeavours ourselves. Our only experience is that we would rather spend most of our money in wild-catting rather than buying proven reserves.

MR. COMMISSIONER HARDY: Company policy could vary quite a bit in that respect.

MR. LOUGHNEY: It could, yes, depending on the company's policies.

MR. COMMISSIONER HARDY: Thank you very much, that is all.

MR. COMMISSIONER HOWLAND: Thank you, Mr. Chairman. Mr. Loughney, I have just one question arising out of the discourse of ours here. I believe your company is rather heavily in the gas business as are most of the oil companies here. I have been trying to put the two things together and understand something about the pricing of oil and gas.

I do not want this discourse today to get into it too deeply because I understand that refining costing is quite an operation. I would suspect that the pricing of oil and gas in the allocation of your costs would be quite a complicated procedure; but do I rightly understand it that the price that you get for gas or the price that you get for oil,

in both cases, would be determined by the market but not by the allocation of costs as between one and the other.

MR. LOUGHNEY: That is right, yes sir.

MR. COMMISSIONER HOWLAND: Well, you planned your cost overall between gas and oil as an operating company.

MR. LOUGHNEY: Yes, distribution of exploration costs and development costs?

MR. COMMISSIONER HOWLAND: Yes. What I am trying to puzzle out here is that, if this is correct you must have made some kind of assumption on the price and the amount of gas that you are going to sell over the next period on which you will make your oil price estimates and your oil market prospects. Now, is that a correct assumption? You have to make -- you -- as an oil company -- have to estimate certain outlets for your gas in the price of your oil.

MR. LOUGHNEY: Maybe it is just wishful thinking, we are assuming we will get a gas export market.

MR. COMMISSIONER HOWLAND: I would like you to enlarge on what assumptions you have made in regard to the sale of gas in this market forecast of oil. I will explain, if you like, before I ask you why I am getting at it. It seems to me that when you talk to us, you and the other companies

have talked to us, about the export of gas from Alberta both to the east and to the south, there is a substantial amount of money involved in the assumption that you will or will not reach these markets and that this can affect the price of oil to the profitability of the oil or the price to the Alberta producer. That is what I would like you to enlarge on.

MR. LOUGHNEY: As far as the Alberta producer is concerned, it will affect his net profits from his oil operations to the extent that it will better them as the market for gas develops and as more wells are drilled and capped for our market. It will lessen his profit condition for lack of market outlets.

MR. COMMISSIONER HOWLAND: I would agree. It would suggest to me it would improve his flexibility in meeting competing prices of oil.

MR. LOUGHNEY: It would -- the price of oil which was --

MR. COMMISSIONER HOWLAND: If you were meeting competition you would have more flexibility as an operator if you have had a large substantial income from gas.

MR. LOUGHNEY: We think one of the advantages to the producing industry in the Western Canada will come about as a result of larger markets for gas which will give us additional revenues from

wells that are shut in at the present time from which no income is received at all and there is a second advantage in that generally the export markets or gas markets, I should say, are relatively stable. You do not have the fluctuations from sales of gas that you would have from oil, which is dependent more on economic conditions.

MR. COMMISSIONER HOWLAND: Is this right? I want you to tell me. I think I have followed you. I think we are in agreement, that the sale or the outlet for gas is going to materially affect the welfare of the oil industry in Alberta.

MR. LOUGHNEY: Yes, sir.

MR. COMMISSIONER HOWLAND: Correct.

MR. LOUGHNEY: Yes, sir.

MR. COMMISSIONER HOWLAND: In this sense, it is going to give it greater flexibility in meeting competing oils if the sale of gas is realized. Is that correct?

MR. LOUGHNEY: Yes, sir.

MR. COMMISSIONER HOWLAND: Then what I would like to know is: what volumes of gas sales have you assumed in these estimates of Canadian markets for oil or for United States markets for oil?

MR. LOUGHNEY: Your question is predicated along the impact on the demand for crude resulting from gas displacing furnace oils and heating oils?

MR. COMMISSIONER HOWLAND: No, no.

MR. LOUGHNEY: I am sorry.

MR. COMMISSIONER HOWLAND: Maybe I am not telling you what I want. Let us see how I can put it for you. There is a lot of gas in Alberta.

MR. LOUGHNEY: Yes, sir.

MR. COMMISSIONER HOWLAND: And the gas industry or the oil industry here wants to export it.

MR. LOUGHNEY: Yes sir.

MR. COMMISSIONER HOWLAND: Let us assume that in fact there is a substantial development in the next five years of exports, that it is allowed, and that you suddenly begin, as I understand the situation here, to move substantial volumes of gas out of here. Effectively, it is income to the oil operators; correct?

MR. LOUGHNEY: Yes, sir.

MR. COMMISSIONER HOWLAND: Now, this would enable you, inasmuch as you average your costs or average the whole operation, oil and gas, to be in a much healthier position in respect to sales of oil. Is this a correct assumption?

MR. CAMPBELL: May I ask a question and see if I have understood what you are getting at.

MR. COMMISSIONER HOWLAND: Yes, certainly.

MR. CAMPBELL: Is your question this, if major quantities of gas are being sold by the Alberta producers that the Alberta producers will

then be in a better position to say take a 25 or 30% discount to enable him to get into the Montreal market. Is that what you are getting at?

MR. COMMISSIONER HOWLAND: I am not bothering about the Montreal market or any other but in marketing in general; but the oil industry will be able to meet competition on the west coast much more effectively if it is getting a large source of revenue coming in from the gas. Am I wrong on this or am I right?

MR. LOUGHNEY: No, you are correct.

MR. COMMISSIONER HOWLAND: All I want to know is this, Mr. Loughney: that you must have made some assumptions of the sale of gas revenues, the revenues from the sale of gas in computing your future competitive position, not only in Montreal, but Montreal in particular, if you like, but in all of these markets. There is a new factor that could affect your sales in the future of oils. That is a big income which you would get from the gas. Maybe I am not clear yet. I would like to know what volumes of gas sales you have included in these estimates.

MR. LOUGHNEY: Forgive me, Dr. Howland, for a moment. Do you have reference to the internal revenue from oil as resulting from the sale of the solution gas?

THE CHAIRMAN: I wonder if I could help you

in this situation. I think that what Dr. Howland is getting at, and you can correct me if I am wrong, is simply this: that in the event of substantial sales of gas by these oil producing companies, who have gas reserves, then they would be in a better position to reduce the price of oil to compete in these various markets than they would be without such additional revenues from the export salesof gas.

MR. COMMISSIONER HOWLAND: That is right.

THE CHAIRMAN: Therefore have you taken any possible sales of gas into account in determining your wellhead or your laid-down costs of oil, or your wellhead price of oil upon which your laid-down cost is based, in the estimates which you have given to us.

MR. LOUGHNEY: No sir, not for the purposes of this brief, we did not.

MR. COMMISSIONER BRITNELL: So you will have a little cushion there if there are gas sales which should come up?

MR. LOUGHNEY: That might be the situation with one company but certainly might not be with another.

THE CHAIRMAN: It would give you the gambling dollar.

MR. LOUGHNEY: Yes.

THE CHAIRMAN: Well, Mr. Loughney, the

Commission wishes to express its thanks and appreciation to your company and to yourself and to your colleagues for this excellent brief which you have given to the Commission and we appreciate it more, perhaps, because you have already given us a very good brief at our hearings in Calgary.

I know there are other topics on which you are going to help us. You have been most co-operative, all of you, and we know the time and labour that your whole organization has put on it. We appreciate it very much. We appreciate your co-operation. Thank you very much.

MR. LOUGHNEY: Thank you very much, Mr. Borden and we are deeply appreciative of the opportunity to present this brief to the Commission and we would like again to ask permission to file a supplemental brief dealing with the terms of reference at your hearings in Toronto.

I would also like to file, if I may, a summary statement, which will summarize the brief which we have attempted to present here in the last day.

THE CHAIRMAN: Fine. Thank you very much, indeed.

MR. LOUGHNEY: Thank you.

THE CHAIRMAN: We shall now adjourn until two o'clock this afternoon at which time, I think, we will proceed with the Canadian Oil Company's

submission.

---Whereupon the hearing adjourned at 12.40 p.m., until 2.00 p.m.

Submission of

CANADIAN OIL COMPANIES, LIMITED

Appearances:

Mr. W. H. Rea	-	President
Mr. D. P. Robinson	-	Vice-President, Secretary and General Counsel
Mr. J. B. Webb	-	Producing Manager and Exploration Manager
Mr. W. M. Luthy	-	Development Manager
Mr. R. B. Eddy	-	Legal Counsel
Mr. H. G. Bagnall	-	Operations Manager
Mr. J. W. Dick	-	Chief Accountant

---On resuming at 2.00 p.m.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing. Mr. Pattillo?

MR. PATTILLO: Thank you, Mr. Chairman.

Mr. Chairman, we are now going to hear from the Canadian Oil Companies, Limited. It has filed its brief with the Commission and I am proposing that that be marked CC-9-1.

---EXHIBIT NO. CC-9-1: Submission of Canadian Oil Companies, Limited.

MR. PATTILLO: Mr. Rea, the president of

the company, is here, and I will ask him to introduce the members of his group to the Commission.

THE CHAIRMAN: Thank you. Mr. Rea?

MR. REA: Mr. Chairman, members of the Commission, Canadian Oil feels privileged to have the opportunity to appear before this Commission and to read into the record our ideas which, we hope, may contribute in some small measure to your task of recommending a solution to the problems facing the producers of Western Canada.

In comparison with the companies which have appeared before you in the past ten days, Canadian Oil is a relatively small operator, but I think our position is unique in that we are the largest fully integrated oil company in Canada, without any domestic or foreign affiliations with other oil companies.

In the submission filed, there is a section which deals with the export of natural gas and, while this section may be made a part of the record, in the interests of saving the time of the Commission and with the concurrence of Mr. Pattillo, we do not intend to read this portion. Suffice to say that we accept the calculation of reserves made by the Canadian Petroleum Association and favour the export of any surplus beyond the foreseeable needs of the Canadian economy.

May I now introduce my associates?

THE CHAIRMAN: Please do.

MR. REA: On my left is Mr. Douglas Robinson, Vice-President and General Counsel of our company, resident at Toronto. On my right is Mr. J. B. Webb, the manager of our producing department in Calgary. Next to Mr. Webb is Mr. Wallace M. Luthy, the development manager of our company in Calgary. Seated behind us, nearest the door, is Mr. John Dick, Mr. Herb Bagnall and Mr. Eddy.

Mr. Pattillo, I would like to ask our Vice-President, Mr. Robinson, to read our brief.

MR. ROBINSON: Mr. Chairman, gentlemen, this is a submission of Canadian Oil Companies, Limited, a fully integrated oil company, 93 per cent owned by Canadian citizens resident in Canada with no affiliation with any other oil company, either domestic or foreign. It is Canada's largest independent fully integrated oil company.

History of the Company:

At the turn of the century the inflow of American crude oil and petroleum products was making serious inroads into the markets of the Southern Ontario crude oil producer. So much so, that a group of Ontario industrialists and crude oil producers joined forces to form an independent Canadian oil company. It was organized under the name of Canadian Oil Refinery Company and, in a few

months' time, opened a new oil refinery at Petrolia in 1901. In 1908, this Company experienced financial difficulties. Out of the reorganization a new company bearing the name "Canadian Oil Companies, Limited" was incorporated under the Ontario Companies Act, with control of the company held by the National Refining Company of Cleveland, Ohio. This condition obtained until the fall of 1938, when control of the company was purchased and returned to Canada, where it has since remained.

Functions: For many years Canadian Oil Companies, Limited, was primarily a marketing organization and although it operated the Petrolia refinery this plant supplied only about 10 per cent of its sales volume. The company now has 3,000 retail outlets serving all provinces of Canada except British Columbia and Newfoundland.

Following the major oil discovery at Leduc in 1947 and the subsequent decision to build a pipe line to move Alberta oil to the Great Lakes area, Canadian Oil Companies, Limited, decided to build a modern refinery at Sarnia. It thus became the first refinery in Eastern Canada specially designed, engineered and built to refine Canadian crude oil from Alberta. To date, $35 million has been invested in this plant, which, currently, processes 30,000 barrels daily or 10 million barrels per annum. Work has already commenced on

an expansion programme which will increase its capacity to 50,000 barrels daily in 1959.

From this plant, the company supplies feed stocks to the government-owned Polymer plant and the Dow Chemical Company and in 1957 brought on stream new units to manufacture petrochemical base stocks, i.e., benzene, xylene and toluene. The company's refinery runs Canadian crude oil exclusively.

The next step in the company's integration was its entry into the producing field which was brought about by the acquisition in 1955 of the assets and undertakings of the Anglo-Canadian Oil Company Limited, a pioneer exploration and producing company for over 17 years. Since its entry into production, the company has increased the 12 million barrels of oil reserves acquired from Anglo to 33 million and its unexplored land position from 400,000 to 844,000 net acres. To date, $30 millions have been spent to acquire, find and develop crude oil production in Western Canada.

The company participated in providing part of the equity capital for the building of the Interprovincial pipe line. It also has an interest in the Trans Mountain Pipe Line Company.

Canadian Oil Companies, Limited, as an independent producer, refiner, and marketer, is therefore dependent on the production of Canadian

crude oil, and the manufacture and sale of the products therefrom, for its existence. Accordingly, we are directly and vitally influenced by policies in effect in Canada and feel constrained to set forth our views on certain subjects included under the "terms of reference" of your Commission.

Marketing of Canadian Crude Oil:

As a producer of crude oil in Western Canada where we have a substantial investment, we are interested in selling the maximum amount possible and at the highest wellhead price obtainable.

Canada's large and rapidly expanding crude oil production has recently received a setback, in that the United States has temporarily, we hope, placed a limit on the import of Canadian crude oil into the northwestern United States which is, and should be, a normal market for a large portion of our production.

Immediately such a situation as this arises, there are those who would advocate the establishment of alternate markets even though they may be artificial, and less economic.

Montreal Market.

The alternate market which is being advocated is Montreal. There is established in that city a very large refining centre, so established many years ago when Canadian crude was not available and oceanborne crudes had to be

imported to supply Canadian product demands. Large sums of money were expended by the companies concerned to establish this refinery capacity here on tidewater. Products from this refinery centre were moved into Ontario by railway, highway transport, and by tankers up the St. Lawrence. Later a products pipe line was built from Montreal to Toronto in order that the Ontario demand would be adequately supplied. In fact, products refined in Montreal found their way as far west as Fort William.

It is now proposed that a pipe line be built from Western Canada to Montreal at a cost of upwards of $250,000,000. If this were done the same conditions will prevail except that the crude is moved eastward to Montreal and about one-third of the products refined therefrom will be back-hauled into Ontario. This, we think you will agree, is not the most economical move, nor is it fair to require the refiners in the Montreal area to enter into long-term commitments for the purchase of Canadian crudes, which commitment would be necessary, before any crude line to Montreal could even be considered.

It is further proposed that in order for Canadian crude to be competitive at Montreal, there would need to be a reduction in wellhead prices, lowering of pipe line tariffs and the possible imposition of import controls. Let us

examine these.

1. Lower Wellhead Prices:

Canadian crude oil, by reason of its distance from adequate markets, already suffers severely in wellhead prices compared with competitive crudes. For example, Illinois crude is approximately $3 per barrel, close to a large market, versus Redwater crude at $2.63. A 10-cent per barrel reduction has been proposed in Canadian crude to make it competitive at Montreal. Assuming this were done, what happens if Middle East or South American crude producers drop their prices to retain this market? The inevitable result could be the lowering of wellhead prices of Canadian crude oil to the point where the development of a basic normal resource becomes unattractive. In the long run, Canadian Oil Companies, Limited, as a producer, would prefer to face a restricted production for two, three, or even four years in the prospect of sustaining higher wellhead prices.

2. Lower Pipe Line Tariffs:

The advocates of a pipe line to Montreal contend that a low through rate is possible by reason of large volume and telescoping tariffs. That is, the refiners on the short haul would pay a much higher price per barrel mile so that the refiners at the end of the line could get a lower rate per barrel mile.

A recent proposal recommends increasing the rate from Edmonton to Sarnia so as to provide a lower per barrel mile tariff to Montreal. We understand the proposed differential between Edmonton to Sarnia versus Edmonton to Montreal to be just one cent per barrel. In other words, the differential from Sarnia to Montreal, 500 miles, would be one cent. Assuming a 3.8-cent tariff per 100 barrel miles, the differential should be about 19 cents. Canadian Oil Companies, Limited would object most strenuously to any such proposal.

The location of our new refinery at Sarnia was decided after an exhaustive study by a large qualified engineering concern which specializes in studies of that kind. The Sarnia location was chosen because it was at the lower end of Lake Huron right at the gateway to Canada's largest consuming area of petroleum (Ontario); also, because it was on the direct pathway between the oil fields of the West and the rich Ontario market. Assuming the Toronto area to be the centre of gravity of the Eastern market, it seems unjust for a refiner in the Sarnia area to pay a higher pipe line rate for his crude oil so that it can be moved another 330 miles beyond the centre of gravity (Toronto) market which both the Sarnia and Montreal refiners are competing for.

3. Import Controls:

To help Alberta crude into the Montreal market, it is suggested a duty be imposed on foreign crude. Presumably, this duty applies on crude oil reaching Halifax as well -- a market which is beyond the reach of western crude. Residents of our Atlantic provinces would soon be heard from when higher prices were charged for petroleum products as a result of a duty on crude oil, a duty designed to help the Western Canada crude oil producer.

Today we are witnessing the rising temperature of public opinion as a result of quota limitation on Canadian crude oil reaching the United States. It is not difficult to imagine the outcry from Venezuela and other South American countries on the entire loss of their crude oil sales to Canada. In the event of reprisals, what is Canada likely to lose in sales of wheat, etc.?

4. Commitment by Montreal Refiners:

It seems unfair to require the Montreal refiners to make a long term commitment for Western crude oil and thereby bar them from opportunities which from time to time could be more economic. Certain refinery construction in Montreal has been designed and engineered to process a certain type of foreign crude oil. A compulsion to use domestic crude oil would therefore work a

hardship on refiners who had investments in special equipment which would now be unnecessary.

5. Commitment by Crude Oil Producers of Western Canada.

To justify a pipe line to Montreal the producers in Western Canada would have to be prepared to give a long term commitment to supply. Assuming 250,000 barrels daily for twenty-five years, the total commitment would exceed one-half of the currently reported oil reserves of 3.5 billion barrels. Are the producers prepared to make such a commitment to supply the crude oil, regardless of whether or not closer and more attractive markets develop?

In the long term view our crude oil will certainly find its way into natural markets in the Puget Sound and northwestern and upper-mid-continent area of the United States. When that condition occurs, we do not want to be saddled with a $250 million pipe line and a long term commitment to supply 200-250 thousand barrels daily of our crude oil to a market which could only be substantiated by artificial means.

Canada has an adverse trade balance with the United States. In 1957 this amounted to approximately $1.5 billion and there is constant pressure to correct this situation. One logical method of so doing is the export of our surplus

petroleum into the northwestern and upper mid-continent areas of the United States.

We should not, however, sit idly by without exploring further possible means of expanding our markets for Canadian crude.

Alternatives to the Montreal Market: As an alternative to building a line to Montreal, let us consider that from here on we supply the increase in Canada's demands from Western crude. This could be brought about by supplying more and more of the Ontario market from Ontario refining capacity. Also, all refiners in Canada operating within the orbit of Canadian crude supply should use it. This could have the effect of moving the orbit of Canadian crude steadily eastward. In time most, if not all, of the Ontario market can be supplied by Canadian crude.

Broader export and domestic markets for Canadian crude can be brought about by these steps:-

(a) The Canadian Government to continue to press United States authorities to exempt Canadian crude oil moved by pipe line into the United States from any import quota limitation. This would help to balance our large trade deficit with the United States.

(b) Canadian refineries operated in the areas where Canadian crude is available at competitive prices should discontinue importing United States crude oil.

(c) Until outlets for Western Canada crude oil open up in the Western and upper mid-continent areas of the United States, let us try to preserve the increase in demand of Canadian petroleum products for the Western crude oil producers. This can be gradually

brought about by locating new oil refineries in the orbit of Canadian crude supply. Our own company is increasing its Sarnia refinery capacity, which will be an added outlet for Canadian crude oil.

(d) As and when additional refining capacity is established in Eastern Canada sufficient to meet all of our petroleum needs, it is to be hoped the present importers of products will seek their supplies from Canadian sources.

The largest marketing area for petroleum products is in the Province of Ontario and this market should be supplied from Canadian crude oil. The above suggestions should work to that end.

These would not cause material hardship for present refiners who have made substantial investments in capital equipment, but would tend to encourage the establishment of new refineries in areas where Canadian crude oil is now available.

The foregoing proposals, if carried out, could go a long way toward providing a larger domestic market for Canadian crude oil. The enterprise of our industry, in slightly more than 10 years, has brought Canada from a nation having less than 10% of its oil needs to one of self-sufficiency. And now as we face the problem of abundance, let us hope that industry statesmanship will again prevail in the interests of our country.

Export of Natural Gas: While Canadian Oil Companies, Limited is not a large producer of natural gas, having reserves of about 1/10 of a trillion cubic feet and approximately one-half million dollars tied up in capped gas wells on which as yet we have not received any income, nevertheless, we feel that we have a definite interest in the question of the export of this product.

It is submitted that the first consideration must always be the satisfaction of the needs of the Canadian consumer and that the export of natural gas must be subservient to these needs. The export of gas, however, can have a definite bearing on the cost to the Canadian consumer in that any surplus over and above Canadian requirements, if exported at a reasonable margin of profit, will affect not only the price to be paid by the consumer but will stimulate the exploration and development of future gas reserves. Although we have not made separate calculations of our own, we have carefully reviewed the basis on which other estimates on future recoverable reserves are calculated and we believe that ultimate reserves of gas will prove to be in the neighbourhood of 300 trillion cubic feet as estimated by the Canadian Petroleum Association. We are, therefore, of the

opinion that the export policy, both of the Provinces and of the National Government should take into account such projected future reserves of gas when considering future requirements in Canada, and if in so doing there is a surplus over and above the foreseeable Canadian requirements, then export licenses should be promptly granted. It is further submitted that in determining any exportable surplus, the future rate of finding should not be ignored. There is available a large amount of data pertaining to this and it is not our intention, nor is Canadian Oil Companies, Limited qualified to deny or confirm any of this data. We can, however, urge that in arriving at a formula upon which to base the exportable surplus, the rate of finding should not be overlooked. As more and more geological information is obtained the forecasting of possible reserves will become more and more accurate.

It has been widely stated that the effects of an export policy based on the above could result in higher prices than those currently paid in the Province of Alberta. While this might well prove to be the case, at the same time there is no assurance that if export permits are not granted the prices to the consumers of Alberta, as a whole, will not rise and possibly rise to higher levels than in the event of export and the many benefits

to the Province and its people arising out of a strong and healthy gas industry will be lost. Whether we like it or not, except under artificial restraints and in isolated instances the price in the world markets, less transportation factors involved, sets the prices in any given area whether it be gas, oil, wheat or any other world commodity. Therefore, when the question of consumer price is raised, as a matter of political expediency, the merits of the arguments presented should be judged on its cold economic facts and not in the hot blast of politics.

Certain facts heretofore brought out by this Commission have tended to indicate that the United States consumer may have benefited at the expense of his Canadian counterpart. Again this is a matter of opinion, and it may well be that the Canadian consumer would not have had the benefits of natural gas by any other means. The many producers operating in western Canada who initially contracted their gas to Trans Canada did so knowing full well thatthe contract terms received were inadequate, but did so as a contribution to get the project under way, knowing that in the long run they would be more than recompensed for their initial sacrifice by the development of a strong and healthy gas industry in Western Canada. Contracts heretofore executed by both

producers and consumers may appear, from the short term view, to be disadvantageous but may well prove to be the reverse over a long term period. If we accept the premise that future reserves of natural gas in western Canada are on the order of 300 trillion cubic feet, the reserves currently under contract represent only a negligible portion and as subsequent contracts are entered into there is little question that many of the apparent inequities currently existing will rapidly be corrected and all western Canada will benefit to a far greater extent because of their close proximity to this vast supply of reserves. We are of the opinion that armed with the facts that have been developed by this Commission, regulatory bodies such as the Oil and Gas Conservation Board or the Board of Transport Commissioners, in granting subsequent permits for the transmission and export of natural gas, will examine more closely the contractual basis on which natural gas will be purchased and sold for herein lies the great differences between the transportation of oil and natural gas. Transportation of oil is generally handled on a strictly common carrier basis, the pipe line company involved having no direct interest in the commodity transported but simply an interest in the transportation revenue which can quite easily be related to the investment in the transportation facilities and a

reasonable return on investment determined. Our existing regulatory bodies have had little difficulty in the past in this respect and in our opinion are quite adequate to handle the future regulations of such oil pipe lines. On the other hand gas transmission lines rarely handle natural gas which they do not own. They are owner shippers, as opposed to true common carriers and as a result it becomes necessary to look, among other things, at both the profits from the pure transmission of natural gas as opposed to the profits arising out of the purchase and sale of the natural gas so transmitted, in order to determine whether or not such gas transmission lines are being operated in the best interests of the Nation as a whole. We see no reason why our existing regulatory bodies, as presently constituted, cannot function adequately in this respect. Certainly they have the benefit of considerable related experience and should be in a far better position to do so than a newly constituted Board would be.

National Energy Board: Insofar as the establishment of a National Energy Board is concerned it is our hope that the Terms of Reference are not to be interpreted that there is a basic assumption that such an authority shall be established.

The oil industry is well aware of its responsibilities and obligations under a free enterprise system and it is because of this system and the tremendous investment made by private interests thereunder that the discovery and development of our natural resources has taken place.

The oil industry being a dynamic and research minded industry should not be hampered by any governing or regulatory authority beyond those normally placed on business. It is the responsibility of the Parliament of Canada to establish a policy with regard to national energy but the Government should not interfere unnecessarily. Rather, present legislation, both Provincial and Federal, should be constantly reviewed and amended to conform to changing conditions.

Any regulatory body tends, over a period of time, to broaden its authority and to restrict those operating under its authority.

During the war the Government established the Office of the Oil Controller -- in its initial stages this control was chiefly concerned with the rationing of gasoline to the public. It was not long, however, before it was quite apparent that gasoline rationing was impossible without other forms of control and before the end of the war, Oil Control had regulations effecting every phase of the petroleum industry.

It is to be hoped that rather than establishing a regulatory body that Government will refer any problems which may arise to the industry which will, we submit, face the challenge and solve it under existing regulations.

ANGUS, STONEHOUSE & CO. LTD.
TORONTO, ONTARIO

THE CHAIRMAN: Thank you very much, Mr. Robinson and Mr. Rea. Yes, Mr. Pattillo.

MR. PATTILLO: Mr. Rea, you told us as to the percentage of shareholdings of Canadian Oil Companies that are situate in Canada. Is there a remaining percentage in the United States?

MR. REA: There is about 2% in the United States and the balance is in other parts of the world.

MR. PATTILLO: How many directors has the company?

MR. REA: The company has nine directors.

MR. PATTILLO: How many of them are Canadians?

MR. REA: They are all resident in Canada. Eight of them have been born in Canada and one was born in the United States but has lived in Canada for about 20 years.

MR. PATTILLO: I would like to discuss for a moment, if I could, the result of your producing operations in Western Canada. At the present time what is the aggregate MPR of Canadian Oil Companies Limited?

MR. REA: Approximately 6,000 barrels per day.

MR. PATTILLO: What quantity are you selling per day?

MR. REA: About 3,000 barrels per day.

MR. PATTILLO: Are you carrying on producing operations in Saskatchewan as well as in Alberta?

MR. REA: Yes, we are.

MR. PATTILLO: Are you operating in Saskatchewan up to the amount of your MPR's?

MR. WEBB: No, we are not, sir.

MR. PATTILLO: What is the proportion of your MPR which you are selling in Saskatchewan?

MR. WEBB: About 20%.

MR. PATTILLO: So that you are selling then what turns out to be a higher percentage of your MPR in Alberta than you are in Saskatchewan?

MR. WEBB: That is correct, Mr.Pattillo. Our production in Saskatchewan is largely sulphurous crude which has a restricted market.

MR. PATTILLO: Mr. Rea, you have been here for a number of days listening to these discussions that we have been having about the merits and demerits of moving Canadian oil to Montreal.

Do you agree with some of the views expressed that the present situation, so far as the Alberta producer of oil is concerned, is a serious one?

MR. REA: Yes, we do.

MR. PATTILLO: What do you think are the remedies that might be employed for correcting the situation?

MR. REA: Following the brief I think the first remedy is for our Government to step into this picture and make very, very strong representations to the Government in the United States. Now, this problem we have is both an industry problem and a government problem and, as we have sat around here for the last few days, it appears to me we have an industry here that is in a sense on trial: an industry that has spent millions of dollars in finding these great oil resources and now we are in to a period of abundance.

We are handicapped in marketing these in the United States partly because of the United States Government regulations to limit the amount coming into that country. I feel that -- or Canadian Oil feels that the first move here is on the part of our Government to try and open these doors.

We have all come to the conclusion around here, I believe, that the most logical market for our crude oil -- the closest market where it would give the western oil producer the greatest net return, is to have that oil flow from the Puget Sound area of the United States.

Now, this subject should receive a lot of attention from our Government.

Quite frankly, I feel our Government has a lot of homework to do on this subject. I

believe some representations have been made to the United States but certainly not strong enough. This is a big issue in our country. It seems to me that this is an issue that requires the attention of the top leaders of our Government, possibly the Prime Minister himself, in going to Washington -- not with his hat in his hand, but going down there and presenting a serious situation as far as Canada is concerned.

To illustrate how lightly I feel this subject has been taken by the United States I would like to quote from Platt's Oilgram, which is dated May 5th. This is a daily publication of news of the oil industry which comes from Chicago and Cleveland.

I would like to just quote this statement which carries the dateline, Washington, May 4th.

"Two Congressmen who visited Canada in December and January will report to House Foreign Affairs Committee tomorrow that "oil question" is 'a major source of irritation' between U.S. and Canada.

Representatives Hays and Coffin, comprising a special study mission to Canada, found 'a veritable wave of anti-American sentiment' resulting from U.S. action wiping out exemption of Westcoast imports from lowered import quotas.

Congressmen felt Canadian concern about

import restrictions is perhaps exaggerated, U.S. action does shake the faith of the Canadian oil industry and the Canadian business community in the good faith of the United States pretensions of belief in freer trade.

Canadians feel also that they have been misled because U.S. has given implicit encouragement to the development of the Canadian oil fields and then has reversed itself and restricted imports of oil. Congressmen declare in their report that U.S. reason for restrictions simply does not make sense".

Mr. Pattillo, may I read that again.

"Congressmen declare in their report that U.S. reason for restrictions simply does not make sense.

Reason was that exploration and development of U.S. reserves must be stimulated to meet any future emergency, but two lawmakers said that in an emergency Canadian reserves will be just as available as United States reserves."

Last night in the Calgary paper here, on page 30, there is a news comment: "Few in U.S. see findings on Canada".

Dateline Washington: "The Hays-Coffin report on eroding Canadian-American relations received less newspaper coverage here than that $2 million Trust Company robbery in Brockville, Ontario,

over the week-end.

At least the robbery made the front pages, but in many major American cities, stories on the House Committee's report on Canadian-American problems failed to make the newspapers at all."

I think there is a tangible indication that this serious problem we have in this country is being too lightly dealt with by our American friends.

I submit that before the oil industry can get some of this oil moving into the Puget Sound area, it is the responsibility of our Federal Government and possibly of our Provincial Government out here to make some representations in a very loud way in Washington to help open the doors to get our crude oil into the United States.

It seems to me that it should be handled by the Prime Minister himself and could well be a subject on the agenda of the Summit Conference this July between President Eisenhower and Prime Minister Diefenbaker.

We should not go with our hats in our hands to Washington about this thing. Canada has a lot of arguments in its favour. We are the best customer of the United States. We have a tremendous trade balance of over 1,500,000,000 in their favour. This oil here can mean a tremendous thing

to the United States in the case of a national emergency. Their money has come into Canada to help develop it. We have built pipelines to put it right into their marketing areas and in the northwest section of this country; and now that we have all these things accomplished they are starting to close the doors.

I think our Prime Minister and officials of our Government should go to Washington and pound the desk and let it be known that Canada feels very concerned about this and will soon warm up some public opinion in the United States about this issue.

MR. PATTILLO: Now, Mr. Rea, do you think that any company that comes into Alberta and obtains a natural resource of the Province and develops it, can consider that it has completely discharged its duty if it makes no attempt to market the natural resource.

MR. REA: No, I don't think we should expect this natural resource to be developed and left in the ground forever. Some efforts should be made to try to market it and help our trade balance.

MR. PATTILLO: When you find a situation with the permissable quotas of imports in the areas where the Canadian crude can go have not yet been reached and when you find that there are international

companies in the producing business in Alberta that are not buying anyof the Canadian crude, do you not think that before you send the Prime Minister or some representative of the Government down to fight your battles that you perhaps had better try to go and do a little fighting amongst yourselves.

MR. REA: No, Mr. Pattillo. I think the gate has got to be opened so that if these oil companies want to import into the United States, the gate is open for them to do so. Right now if some American company wanted to import a lot of our oil into California, they have government restrictions holding them off. I think that the restriction should be removed first.

MR. PATTILLO: Do you not think that at least the Prime Minister should be in a position to say that if these restrictions were removed we have assurances from companies that are operating in the Canadian area that they will import so much?

MR. REA: Well, that seems to be which comes first; the hen or the egg?

MR. PATTILLO: All I am thinking of is this: supposing the Prime Minister did go seeking to do as you suggest. Might he not, at the present time, be met with the argument:

"Why are you crying. Your imports are not being restricted at all. The quotas are not yet filled. You wait until that situation arises before worrying us. We have problems enough without thinking about these things that may never happen"? Would that not be a possible answer?

MR. REA: It could be, Mr. Pattillo.

MR. PATTILLO: Whereas, on the other hand, if he could go and say, "We have assurances from companies that are operating in the United States and in Canada that if permission is granted they will take so many barrels per day of Canadian crude", then he would be on a much stronger wicket, wouldn't he?

MR. REA: We feel that with this Independent Producers' Association in the United States raising so much objection to these imports, that we areafraid the larger, integrated companies hesitate to bring it in, but if the restrictions were removed there would be more of a tendency for them to feel free to do so.

MR. PATTILLO: I can see that, but you feel that the restriction has to be removed first?

MR. REA: I do. That is saying, then, in effect, the United States is giving its blessing to the importation of crude oil, and the oil companies then feel freer to act.

MR. PATTILLO: What I am interested in in what you say there is, these restrictions did not go on until only a very few months ago. These oil companies, or most of them, have been operating in Alberta for four or five years or longer, and yet they have been doing nothing about shipping oil to their subsidiaries or affiliates in the United States. Do you think that has been a practice that has been a

desirable one from the standpoint of the Canadian economy?

MR. REA: Up until the past few months that was so, but there has been a large crude oil move into the California area, and I do think that the companies would like to move more in there if the restrictions were not put on them by the government.

MR. PATTILLO: From the evidence we have heard, the movements and the finding of markets for this Alberta crude have almost been entirely confined to the efforts of two companies: Imperial and British-American. Do you agree with that?

MR. REA: Yes, I believe that is correct.

MR. PATTILLO: Well, do you think they have to do all the work for the industry?

MR. REA: I hope not.

MR. PATTILLO: Don't you think that companies of the size and international stature of Standard of California should also assist in moving this crude oil . . .

MR. REA: Yes.

MR. PATTILLO: . . . particularly when they have refineries in a position that could take it economically?

MR. REA: Yes, I do.

MR. PATTILLO: Have you ever approached them?

MR. REA: No, sir.

MR. PATTILLO: You happen to operate in Sarnia, and there is a company we have been talking about that also operates in that area, known as the Sun: have you ever approached Sun Oil to find out why they are not taking Canadian crude?

MR. REA: Our company produces about 3,000 barrels a day of crude, but buys 30, so we are natural buyers of crude, and up to date have not been too much interested in selling crude.

However, answering your direct question about Sun Oil Company, I spoke to the president of the Sun Oil Company in the United States, which exports crude oil from their company to their subsidiary in Canada, and he suggested that it would be good for Canada and good for his company if their Canadian subsidiary were operating on Canadian crude oil -- that there was a rising feeling of public opinion about our oil question, and that sooner or later I expressed the hope that his company would also be operating 100% on Canadian crude.

MR. PATTILLO: Was that Mr. Pugh?

MR. REA: No, that was Mr. Dunlop.

MR. PATTILLO: Mr. Pugh is the Chairman of the Board, is he, of that company?

MR. REA: I believe so.

MR. PATTILLO: What reply did you get to that?

MR. REA: That they had the subject very

much under consideration.

MR. PATTILLO: How long ago were you talking to them?

MR. REA: Two years ago.

MR. PATTILLO: It must be something like this short-term, long-term -- it must be all relevant.

Do you think anything could be gained, Mr. Rea, by calling a meeting of the industry under the aegis of the Prime Minister of Canada, or the Minister of Trade and Commerce, or some other senior official of the Cabinet?

MR. REA: I mentioned first -- and I will answer your question as I develop this step No. 2 -- we believe first that the Puget Sound area is the first and best area for us to provide outlet for Canadian crude oil. The second most attractive seems to be down along the Interprovincial Pipe Line right through into Ontario. It seems to me that we should try very hard to utilize the facilities of the Interprovincial Pipe Line to the full, and get the entire Ontario market for Canadian crude.

To answer your question specifically, I would think if the Canadian Government called our industry and our refining industry together and said, "We have got a problem of selling crude oil from Alberta: just what can you people do to help provide a greater outlet forthat oil?", I think the industry

would have to have assurances from the Justice Department that in dealing with this subject we would not be infringing on any regulations of that part, and I believe if this question by a senior official of the government was put to the oil industry that they would go into it in a very exhaustive way to see what could be done.

I will go a step further: I think our government official could well say to this group of companies, and direct this question to the international companies' representative, "What can you people do with your parent companies or affiliates to help them or encourage them to help us out with the problem by importing some of that oil in the United States?" He might ask another question: "What could your parent companies or affiliated companies do at Washington to help the government in Washington take a more benevolent attitude towards the import of Canadian crude oil?"

I feel certain that if these questions were put to the industry that they would tackle it, and, if I may be bold -- and I may be excommunicated from the oil industry for suggesting some of these things -- but in Ontario today, I believe it was said this morning we had about 175,000 to 200,000 barrels capacity. There is a 20,000 barrel a day refinery being built at Bronte, Ontario, which will be ready this fall. We are going to build one of

20,000 and have it ready sometime next year. So, that is 40,000 barrels of new capacity. The 20,000 barrels coming on stream this fall will, in effect, add 20,000 barrels of new outlet for Canadian western crude oil, and it will back out a similar amount from the Montreal area. So, there is 20,000 of new oil for Ontario there.

I think our own plant, when it is ready, can find ways and means of running it so it will provide an outlet for another 20,000 barrels.

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The other day we heard a company here say that they had a 20,000 barrels a day refinery near Toronto which was programmed to run 15,000 barrels this year. So there is another 5,000 barrels. So we are up to 45,000 barrels. We heard yesterday of a company that had a refinery at Clarkson, with an ultimate capacity of 60,000 barrels and which is currently running about 30,000. So there we are adding up to about 70,000 barrels.

You spoke of a refinery at Sarnia importing crude oil from the United States. If it could be converted into Canadian crude we would have our total up to about 90,000. I understand that major refinery at Sarnia is also contemplating some further crude oil runs. So I believe we are looking at a possibility of an additional market of 100,000 barrels of Canadian crude oil in the Ontario market, and I believe, frankly, that the industry should try to work this out and over a year or two years at the most there will be another 100,000 barrels of western oil flowing into that market.

Now, it seems to me that this is the next logical step, to have the industry brought in and try and build up this Ontario market and do the other things which were mentioned.

Now, we have already a great pipeline, the Interprovincial Pipe Line already established

which, with a few more million dollars of capital expenditure, can deliver all that oil into Ontario; and, as I understand it, they have approximately 65,000 barrels capacity now, and with a few million dollars additional expenditure they can get that oil into Ontario, and I think that is step No. 2 in this program.

MR. PATTILLO: In trying to achieve that step, would that require some agreement amongst the industry which would result in the discontinuence of the use of the products pipeline from Montreal into Toronto?

MR. REA: I believe that is so, Mr. Pattillo. If we had all that refining capacity operating we would then have in the neighbourhood of 250,000 barrels of refining capacity in Ontario which would practically satisfy the Ontario demand, and I would visualize that the flow of products from Montreal up to Toronto would dry out and the Trans Northern Pipeline would be flowing in reverse, at least back as far as the Quebec border.

MR. PATTILLO: Mr. Rea, is your opposition to the proposed pipeline to Montreal based on your company's position as a producer in Alberta?

MR. REA: Yes, it is. Our feeling is that we should try to get as high as possible a return for crude oil in Alberta and we should do the steps in the proper sequence. That is, first deal

with the most logical market and try and get government and industry together to get into that area. That is, get all of the Ontario market for western crude, and I say, Mr. Pattillo, if we do the most essential things first, and then if all these things fail, if the United States will not let our crude oil into the United States, if we don't get this Ontario market straightened out the way I think it will straighten out -- if these things fail, then, sure, let's get down and face the court of last resort, the pipeline to Montreal.

MR. PATTILLO: In other words, you are not opposing the pipeline to Montreal as such, what you are opposing is the disorderly steps to reach that objective?

MR. REA: That is correct.

MR. PATTILLO: Mr. Chairman, those are all the questions that I have.

THE CHAIRMAN: Thank you, Mr. Pattillo.

Mr. Frawley?

MR. FRAWLEY: Mr. Chairman, I pursued with Imperial and British American and McColl-Frontenac a series of questions to indicate my support for the Montreal pipeline, and I do not propose to go over it all again with Mr. Rea. My position and my client's position is quite clear from the record now.

Mr. Rea, I would like to ask you one

question. You refine only in Sarnia.

MR. REA: Yes.

MR. FRAWLEY: And you have a very wide market all over eastern Canada, haven't you?

MR. REA: Yes.

MR. FRAWLEY: You market into New Brunswick?

MR. REA: Yes.

MR. FRAWLEY: Where does that gasoline come from?

MR. REA: We are purchasers of gasoline in New Brunswick.

MR. FRAWLEY: You engage in a pretty wide system of transfers.

MR. REA: We have an exchange between the Province of Ontario and the Province of Quebec on a specification basis.

MR. FRAWLEY: As a matter of fact, I have no idea of the size of your family or of the market which you have. How far east do the products you manufacture at Sarnia go?

MR. REA: Well, the products directly go as far east as Kingston but indirectly as far as, I would say, the New Brunswick border.

MR. FRAWLEY: But I am talking about your own product you make at Sarnia.

MR. REA: It goes as far east as Kingston with an extension to Ottawa.

MR. FRAWLEY: That is an exchange

proposition?

MR. REA: Yes.

MR. FRAWLEY: And in Quebec it is an exchange?

MR. REA: Yes.

MR. FRAWLEY: And in New Brunswick it is an exchange?

MR. REA: No, in New Brunswick it is a purchase.

MR. FRAWLEY: Now, exchanging is quite a widespread practice in the refining industry?

MR. REA: I don't know. We have been doing it for some time.

MR. FRAWLEY: Thank you.

THE CHAIRMAN: Mr. Rea, in what way, if any, would a pipeline to Montreal interfere with your refinery operations at Sarnia? Assume for a moment that it would interfere with, say, your purchase and sale of products in New Brunswick. I doubt if it would.

MR. REA: No, it wouldn't affect us at New Brunswick because we are purchasers of petroleum products.

THE CHAIRMAN: It wouldn't affect you in that business in New Brunswick?

MR. REA: No. It wouldn't affect it in Quebec either.

THE CHAIRMAN: What about your Sarnia

refining operations?

MR. REA: It couldn't affect us there.

THE CHAIRMAN: So it would have no adverse financial impact upon your operation?

MR. REA: No, not a cent.

THE CHAIRMAN: How long would you be prepared to wait? You told Mr. Pattillo that you thought the first thing that should be done is that the Prime Minister should put on his hat and coat and go to Washington, not hat in hand. But has he anything yet to cry about?

MR. REA: Well, what do we mean by the United States? We are a tremendous customer of theirs. The United States is self-sufficient in oil and we can't expect them to turn this tap full on. There should be some more regular flow, I think.

THE CHAIRMAN: Yes, but you said -- at least I gathered that we should have all the import restrictions, but I understand the testimony that has been given before this Commission is that the industry has not been hurt by the import quotas put on by the United States.

MR. REA: I think the industry here has been hurt due to lack of sale of the oil.

THE CHAIRMAN: But the quota is still below the restrictions

MR. REA: I see what you mean there,

Mr. Borden. Yes, what the Americans are taking is not up to the quotas that they established. Is that what you mean?

THE CHAIRMAN: Yes.

MR. REA: That is right.

THE CHAIRMAN: So as a country, what have we to complain about? I think you as an industry have failed to sell your oil. It isn't a matter of another government having put another embargo on that oil which is preventing western oil moving to the United States, is it?

MR. REA: Well, Mr. Borden, there is a reluctance by the industry in the United States to import more than these regulations allow. I think it is up to the government to help us out with this problem.

THE CHAIRMAN: You want government to help you when you get yourselves into a mess, but you don't want any control.

MR. REA: May I interject something here, Mr. Borden? Mr. Pattillo asked me a question, if a senior official of the government would bring the oil industry together. I am just thinking that there has been a precedent for that just 10 years ago last February when the oil industry was summoned to Ottawa and the then Minister of Defence said we have a very serious problem here; we have a serious problem in the shortage of heating oil,

and some of this we are importing into the United States and the United States has made representations to them to ask Canada to cut down on her importations of heating oil because they were so short. Of course, there has been quite a change from then. But the industry sat in his office and discussed ways and means by which we could hold down this import of heating oils into the United States. As I recall, the industry issued letters to all the customers suggesting that the insulator houses should try and hold down the importation of heating oil, that they should check their burners to make sure they were operating efficiently, and they did, and the industry tried to curtail imports into the United States, and they did so, and in a few months' time everything was cleared up. So I think there is a precedent for the suggestion made in that respect.

THE CHAIRMAN: I am not suggesting there wouldn't be many precedents in our country for that, but were there any threats at that time about prosecutions under the Combines Act, the Criminal Code?

MR. REA: The question was raised at the meeting, as I remember.

THE CHAIRMAN: But nothing happened in that regard?

MR. REA: No, but we wanted to be immune in trying to tackle this problem from any infractions

of the Criminal Code.

THE CHAIRMAN: Don't you think it is rather late in the day for industry to say that?

MR. REA: I believe this question, Mr. Borden, is something that has come up in the last few months and is reaching proportions when something should be done. I don't think this has been of relatively long duration.

THE CHAIRMAN: Don't you think you should have one priority rather than taking off to Washington?

MR. REA: No, I think we should approach the logical markets, the best markets first, and the best market is the Puget Sound area and take the moves to help us get the oil into that market first, and I think the Government should help the industry in that move.

THE CHAIRMAN: Thank you very much, Mr. Rea. The Commission is very grateful to you and your colleagues for being here today and giving us this submission and the benefit of your views. We know you have been very sincere, and we thank you for taking the time to appear before us.

MR. REA: Thank you, Mr. Borden.

THE CHAIRMAN: Mr. Pattillo?

MR. PATTILLO: For the first time, I think, since we have begun we can adjourn early and meet tomorrow morning, Mr. Chairman, when we

will hear from Standard of California.

THE CHAIRMAN: Gentlemen, the hearing of the Commission is now adjourned until tomorrow morning at 10 o'clock, at which time Standard of California will make their submission.

---Whereupon the hearing adjourned, at 3.05 p.m., until 10 a.m., Saturday, May 10, 1958.

Mr Borden

ROYAL COMMISSION

ON

ENERGY

HEARINGS

HELD AT

CALGARY,

ALTA.

VOLUME No.: 39

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ROYAL COMMISSION

ON

ENERGY

Hearings held at Calgary, commencing Tuesday, April 29, 1958, at 10.00 a.m.

PRESENT:

Mr. H. Borden, C.M.G., Q.C. -- Chairman

Mr. J.L. Levesque -- Member

Mr. G.E. Britnell -- Member

Dr. R.D. Howland -- Member

Mr. L.J. Ladner, Q.C. -- Member

Dr. R.M. Hardy -- Member

COMMISSION COUNSEL:

Mr. A.S. Pattillo, Q.C.

Mr. Miles H. Patterson.

Mr. J.F. Parkinson -- Secretary to the Commission.

Major N. Lafrance -- Assistant Secretary to the Commission.

Saturday,
May 10, 1958.

---On resuming at 10.00 a.m.

---Mr. Commissioner Levesque was not present.

---Mr. Commissioner Ladner was not present.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing. Mr. Pattillo?

Representation

by

THE CALIFORNIA STANDARD COMPANY
(The Standard Oil Company of California)

Appearances:

Mr. George L. Knox - President of The California Standard Co.

MR. PATTILLO: Thank you, Mr. Chairman. At the Commission's request, Mr. Knox, who is the representative in Alberta of The Standard Oil Company of California's operations here, has come before the Commission today.

Now, Mr. Knox, would you please give us your full name?

MR. KNOX: My full name is George

Livingston Knox.

MR. PATTILLO: What position do you hold here in Alberta?

MR. KNOX: I am President of The California Standard Company, which is a one hundred per cent subsidiary of the Standard Oil Company of California.

MR. PATTILLO: And the company of which you are president represents the entire operations of The Standard Oil Company of California in Alberta?

MR. KNOX: The California Standard Company's primary activities are production and exploration in Canada. We carry on all the production and exploration activities that the parent corporation engages in everywhere in Canada. We do not concern ourselves outside of Canada, nor do we engage in any other activities unless they are incidental to maintaining production and exploration. Such other activities which we maintain are incidental to that objective.

MR. PATTILLO: How long have you been in the oil business, Mr. Knox?

MR. KNOX: Mr. Pattillo, I helped pay my way through college by rolling barrels to a barrel house and serving gas at a service station, but I have been continuously engaged in the oil business since 1922.

MR. PATTILLO: And have you, during all that time, been associated exclusively with the Standard Oil Company of California or its subsidiaries?

MR. KNOX: Yes, since October, 1922.

MR. PATTILLO: How long ago did you come to the Province of Alberta?

MR. KNOX: I came to the Province of Alberta, other than as a visitor, on April 15th, I think, 1949.

MR. PATTILLO: And was that when the operations of this company of which you are president commenced?

MR. KNOX: No, the operations of California Standard Company -- I believe the California Standard Company, as such, was incorporated in 1944. I can get the exact date, if you wish.

MR. PATTILLO: No, that's fine.

MR. KNOX: And, in a moderate manner, we had been engaged with predecessor organizations in activity since 1938.

MR. PATTILLO: Prior to your coming to Canada in 1949, in what sections of the United States were you engaged with the Standard Oil Company of California?

MR. KNOX: I have done more work in California itself than any place else and my work

had been primarily geological, geophysical, operational phases of exploration, production. I had done a very small amount of sales and refinery work and I had done a little bit of work in Oregon, W shington, various parts of the country, Texas, Louisiana, and a little bit in Mexico and, as a member of the staff organization, I had, at one time, done some analytical work regarding Ecuador and other parts of the world.

MR. PATTILLO: Now, Mr. Knox, I have heard it said that when the oil companies went to Venezuela, in return for the concessions given to them by that country, they undertook three things: (1), to spend money; (2), to develop the oil resources of the country; (3), to find markets for the oil resources when developed.

Do you agree that those three requisites are what any country might reasonably expect from any foreign company coming in to develop its natural resources?

MR. KNOX: Well, you are asking my personal opinion. My personal opinion is that any country can make any deal with a company coming in that it wishes, any type deal is fair as long as it is completely understood, ahead of time, and maintained during the course of the operations of that company.

MR. PATTILLO: Do you agree that any company dealing in the natural resources of other countries has any greater duty than merely to develop the resources?

MR. KNOX: I certainly think that any business must have the welfare of the community that it is operating in at heart.

MR. PATTILLO: Do you think that any company in Alberta engaged in the producing of oil should be not merely concerned in finding and developing it but, also, in marketing it?

MR. KNOX: I would certainly agree that they should be interested and concerned about that phase, Mr. Pattillo.

MR. PATTILLO: That is the marketing phase?

MR. KNOX: Yes, sir.

MR. PATTILLO: Are you familiar with the refinery operations of the Standard Oil Company of California on the west coast of the United States?

MR. KNOX: In a broad, general way, I am.

MR. PATTILLO: Now, please tell me where the refineries are situate and their capacities?

MR. KNOX: The chief refineries of the Standard Oil Company of California on the Pacific coast are, first, the one at Richmond, California,

which is on San Francisco Bay, a few miles from the City of San Francisco. It has a capacity of approximately 167,000 barrels a day.

The next largest refinery is the one at El Secunda, California, near Los Angeles, with a capacity of about 150,000 barrels per day.

The third refinery is the one at Bakersfield, California, in the San Joachim Valley, with a capacity of 26,000 barrels a day. It is much smaller.

MR. PATTILLO: Has the company, to your knowledge, a site for a refinery in the Puget Sound area?

MR. KNOX: Yes, sir. Some years back we bought a site very close to Seattle and we regard it as an excellent site for a refinery.

MR. PATTILLO: Can you give us any idea as to whether any definite plans have been made as to when that refinery will be built, if ever?

MR. KNOX: The corporation announced some time back that they hoped -- this was, I believe, more than a year back -- that they hoped to start to build it in 1960, or start construction then.

I haven't any recent data on that, except that I believe some engineering studies, which are usually carried out years in advance as to the most modern type of refinery, some such preliminary

studies are under way, and I believe the decision, as to timing, will undoubtedly be influenced by the economics at the time the actual contract for construction must begin.

MR. PATTILLO: Do you know whether any consideration has been given as to the capacity of this proposed refinery?

MR. KNOX: Yes, the best information I have is that, although it is still flexible, it will be some place between 60,000 barrels a day and 100,000 barrels a day.

MR. PATTILLO: Do you know whether or not any engineering studies have been made as to the use of Canadian crude in that refinery?

MR. KNOX: Well, I know that there have been considerable studies by the corporation or its research organizations regarding the qualities of various Canadian crudes, as well as other crude.

MR. PATTILLO: Am I correct in thinking that Standard of California is in the producing business in the State of California?

MR. KNOX: Yes, sir.

MR. PATTILLO: What, approximately, is its production in that state, in barrels per day?

MR. KNOX: It has been dropping recently so that any figure I give you will be quite approximate. It reached up around 140,000 or 150,000 barrels a day and, early this year, they

shut in 10,000 barrels a day of production on 100 per cent land. Then, a little later, they shut in an additional, I think, about 10,000 barrels a day on leased land production, and I think that their production at this moment would be around between 110,000 and 120,000 barrels a day.

MR. PATTILLO: In addition to the State of California, is the company carrying on producing operations in any other State?

MR. KNOX: Yes, sir. The company operates -- would it be all right for me to deviate slightly? The company operates -- permit me to say "the corporation" in referring to the Standard Oil Company of California -- the corporation operates in the United States through a number of subsidiaries, of which, perhaps, the most important are the Western Operations Incorporated of the Standard Oil Company, which subsidiary handles all phases of operation in the west coast states and some areas adjacent to them.

In Texas they operate principally through the Standard Oil Company of Texas.

In the Eastern United States their exploration and production activities are handled primarily through the California Company.

Then there is refining and sales in the Eastern part of the States through the California Oil Company.

We have exploration in a number of States, of which I can tell you if you wish.

MR. PATTILLO: Well, that will be sufficient for the moment.

Does the company also operate, through a subsidiary or by itself, in Venezuela?

MR. KNOX: The company operates in Venezuela through the Richmond Exploration Company.

MR. PATTILLO: And in the Middle East?

MR. KNOX: In the Middle East we operate through a number of different companies. Most of the Middle East operations are joint operations of one sort or another. For instance, the Arabian American Oil Company which operates in Arabia, in which the corporation has a 30 per cent interest in that company.

There is production also in the Bahrein Island and about a 7 per cent interest in Iran.

MR. PATTILLO: Has the company carried on any exploration in Alaska?

MR. KNOX: Yes, sir, at this moment we are carrying on active exploration in Alaska. That is handled by the Western subsidiary that I spoke of.

MR. PATTILLO: Has it had any success in Alaska in finding oil?

MR. KNOX: At about the same time that Standard of California and Richfield Oil Company

took considerable amounts of land in the Kenai Peninsula, that area of Alaska, Richfield drilled the first well and it was a producer. Later, it was decided that there would be joint operations there and Richfield and ourselves are partners in a considerable operation there. I believe we both operate independently in other parts of Alaska.

MR. PATTILLO: Now, coming to the operations of the company of which you are president in Canada, what provinces has your company production in?

MR. KNOX: We have production in Alberta, Saskatchewan and Mnitoba.

MR. PATTILLO: And what is your aggregate MPR per day?

MR. KNOX: Our potential, based on MPR, would be about 51,500.

MR. PATTILLO: Barrels a day?

MR. KNOX: Yes, sir.

MR. PATTILLO: What are your present sales per day?

MR. KNOX: We estimate our sales for May at about 21,600.

MR. PATTILLO: 21,600 barrels a day?

MR. KNOX: 21,600 barrels per day.

MR. PATTILLO: In addition to your oil production, have you any gas?

MR. KNOX: Yes, sir. Actually, I think

we drilled one of the early gas wells. We had a capped gas well near Princess that I think has been about seventeen years without production.

MR. PATTILLO: What do you restimate the reserves of the company, in gas?

MR. KNOX: Well, in excess of a trillion cubic feet.

MR. PATTILLO: Now, there is another company which is a subsidiary of Standard Oil Company of California, carrying on business in Canada, and that is the marketing company in British Columbia, is it not?

MR. KNOX: Yes, sir, that is described as the Standard Oil Company of British Columbia.

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MR. PATTILLO: And it has a refinery in Vancouver.

MR. KNOX: Yes, sir.

MR. PATTILLO: What is its capacity?

MR. KNOX: Approximately 18,000 barrels a day.

MR. PATTILLO: Do you know whether it is using Canadian crude in part or entirely?

MR. KNOX: As far as I know, it is using Canadian crude completely.

MR. PATTILLO: Have you heard, Mr. Knox, anything about a proposed refinery in New Brunswick in which a subsidiary.in British Columbia has an interest?

MR. KNOX: Yes, sir. The Irving Oil Company -- the names I give you may not be precisely correct, but there are two companies: one, I believe, is Irving Oil Refining Limited, and the other is the Sales Company.

MR. PATTILLO: And do you know anything about the source of crude that is intended for that refinery?

MR. KNOX: I don't know for certain. You will remember that this is outside the scope of my province, but I would assume, on the basis of economics, that the cheapest crude there would be Middle East, and I feel that the companies will use the cheapest crude that is possible.

MR. PATTILLO: Now, Mr. Knox, do you know whether any of the refineries of the Standard Oil Company of California in the United States are using or have used Canadian crude?

MR. KNOX: Yes, there are a number of refineries which have used small amounts of Canadian crude. The main shipments to the west coast were in early 1957 during the Suez crisis when tankerage was diverted all over the world. It has gone -- Canadian crude, of course, has gone mainly to Puget Sound, which is possibly the biggest market among the west coast markets, but limited amounts have gone to refineries in California.

MR. PATTILLO: What are those refineries using for crude today? Is it entirely California crude or is it imported?

MR. KNOX: Are you speaking of the corporation refineries or the industry itself?

MR. PATTILLO: The corporation refineries.

MR. KNOX: The corporation refineries in California are using mainly California crude, but they are also using some Indonesian crude. As far as I know, during the first quarter of 1958 I don't know of any company imports into California other than Indonesian crude.

MR. PATTILLO: Now, am I correct in

thinking that your company's production and sale of crude is greater than the British Columbia refineries purchase of Canadian crude per day, and that accordingly your company's position, Standard's position in Canada is a long one on sales of crude resulting in the British Columbia company really obtaining crude for its use at your cost of finding, developing and lifting?

MR. KNOX: Would you repeat that question, please?

MR. PATTILLO: Would the reporter read the question?

(Thereupon the reporter read back the question)

MR. KNOX: That is a rather involved question, Mr. Pattillo. Perhaps I could just give you the facts and you can judge for yourself. The capacity of the refinery in British Columbia is about 18,000 barrels per day. I told you that we have a present production of about 21,6000 in Canada. Of that about half is in Manitoba. The cutback of production is essentially -- I told you we had a 51,500 cutback which is essentially in Alberta. So we have something under 1,000 barrels a day, and so that it is the Alberta production which is essentially prorated back, and from our total of 21,500 you must subtract something over 12,000 which is allowed under our May proration.

MR. PATTILLO: Well, the result is, though, is it not, with any producer who is able to sell at prices more than his refineries are consuming, that he can, for practical purposes consider that he is getting the oil into his refinery at a price not exceeding the cost of finding, developing and lifting?

MR. KNOX: I don't know whether I would be prepared to answer that on the spur of the moment, Mr. Pattillo. I don't think I can give you a useful answer on that.

MR. PATTILLO: As a producer, if you were selling all your oil at a posted price -- and that is the case in Canada, is it not?

MR. KNOX: Yes, sir.

MR. PATTILLO: -- then if you are selling more oil than you yourself are consuming, your position is that you cannot treat your oil which you are using as only costing you the cost of finding, developing and lifting, no matter whether the oil you use, in fact, is your oil or somebody else's oil at posted price; isn't that so?

MR. KNOX: We are getting into some rather involved economics. I would put it simply and say that we have been pouring money in every year and never getting a dime out. To me, we are making an investment in the oil.

MR. PATTILLO: When the market demand

was cut off for the sale of Alberta crude in 1957 did you or your Canadian company, of which you are President, or your parent company in the United States, Standard Oil Company of California, do anything about endeavouring to increase themarket for Canadian crude?

MR. KNOX: Over the past several years I have made some personal and some California Standard Company attempts to increase sales in all directions; we have investigated markets as far east as Detroit. I wouldn't say that we had a great deal of success in any direction. It appears that the impelling factor in buying oil is economics.

MR. PATTILLO: When you say economics, from your experience in California and your experience in Albert and your knowledge of the posted prices, do you agree with British American Oil's submission that today Canadian crude from Alberta can be laid down in California, the San Francisco Bay area, at a much lesser price than California crude?

MR. KNOX: In the San Francisco Bay area, with the last 7¢ cut in price and with the present posted California price, and without going too deeply into quality of oil, it would appear to me that the Canadian crude, all things being equal, would have a small advantage.

MR. PATTILLO: Under those circumstances would you tell me why, if it is purely an economic matter, no Canadian crude is being bought by your parent company for use in California.

MR. KNOX: Yes, I think so, Mr. Pattillo. The crude produced in California, like the crude produced in Alberta, is going to find a market right at the well. When you think their wells are within a stone's throw of Los Angeles and that there are literally thousands of producers wishing to sell their oil, I think you will see that it is obviously impracticable to expect to completely displace that with a small market from any source, other than a local source.

I would say that there are also other factors which have not been mentioned. For instance, there is the factor of pipeline connections. There is the factor of refineries being designed to run off a particular type of crude, which enters into it but which I have not gone into in the price consideration.

I think it is the same as every place else in the world where you have a diversified oil industry with great numbers of people producing it, that those people are going to want to sell a reasonable share of the market which is within 100 miles of them so what that really does is it puts the Canadian crude on the West Coast in

competition with other crude from outside the United States and those crudes have been during the past few years coming in somewhat more from the Middle East, Indonesia and Venezuela primarily.

MR. PATTILLO: Mr. Knox, we have heard a good deal of evidence and some opinions expressed that the No. 1 market for Canadian crude, that is the export market, is the Puget Sound area. Do you agree with that?

MR. KNOX: Well, I have worried quite a little bit about that because, with all deference to the value of economic forecasting, it is still an art rather than a science as far as predicting the future is concerned.

You will notice, for instance, from the B-A brief which you mentioned, that Indonesian crude was slightly cheaper in the United States portion of Puget Sound. As near as we can make out, that is approximately correct although I believe that B-A said they did that on the basis of minus 40 and an even rate of foreign exchange. Of course, there is 3¢ difference now. That makes the differential against Canadian crude a little bit worse.

I would say that, as near as I can make out, if you are looking at long-term charters about minus 40 roughly, Indonesian crude would be competitive in Vancouver. On a spot charge which

might run to minus 50, 60 or 70, they would be more than competitive and, of course, that applies with equal force in Puget Sound.

MR. PATTILLO: Can you give us any idea, when you are talking about these charter rates, what does a difference in minus 40 and minus 50 amount to in cents?

MR. KNOX: I believe that -- of course, the longer the haul the greater the saving by low charter rates. That is the reason for the advantage of these big 65 and 85,000 barrel tankers.

I believe that from the Persian Gulf, via the Pacific, that if you change it 10 percentage points it is someplace between 21 and 23¢ difference.

MR. PATTILLO: Now, Mr. Knox, do you consider the situation now confronting the producer in Alberta is a serious one?

MR. KNOX: I consider a serious situation -- we here tend to think of it as tremendously serious. I have been astounded to find there are one or two other places that I have talked with that they regarded it as equally serious.

In talking to some of my acquaintances in Texas, why, I reproached them for their crying when we were hurt worse and in the discussion of that we began to argue about the degree of cut-back.

There are several ways of thinking about that. The other day I believe you mentioned the

percentage reduction in the production in Alberta compared with the United States and that is one way of looking at it. There is another way of looking at it and that is a cut-back in the actual pro rated oil.

Now, there is a bit of oil which is not pro rated in Alberta and it is low production. It is a comparatively small amount because this is a young, growing oil industry here.

In Texas there are many scores of thousands of wells which are small producers but in the aggregate they yield a lot of oil. If you take seriously the pro rated oil, they were, I believe, last month on an eight-day out of thirty days, which would be in the order of 2¢. If you look at the Alberta potential which has been given, most of it non-pro ratable oil, you do not come out too far from the figure that has been used this month for the economic allowable.

Now, there is a loud debate about the validity of it in both places. All I am saying is it would look as if, as far as grief is concerned, they are somewhat in the same ball park.

MR. PATTILLO: You mentioned the cut-back in California and you knew that in so far as your own company's production was concerned. Do you know whether the other producing companies in California are cut-back too?

MR. KNOX: It is my understanding that the total cut-back in California is about 60,000 barrels a day.

MR. PATTILLO: Do you know anything about any of the other producing areas in the United States?

MR. KNOX: Yes, but not in detail. We have a contrast in Canada between -- for instance -- Alberta and Saskatchewan where Saskatchewan had a cut-back perhaps less than California or perhaps comparable. No reduction, of course, in Manitoba or British Columbia as far as I know, but there are several southern States, Louisiana cuts back not as severely as Texas. There is always a big argument. They do not cut back as severely as Texas.

Kansas cuts back mildly. It is an older province and the other States fall into a sort of intermediate position.

Texas produces about half of the United States oil so it is a very important factor in the economy.

MR. PATTILLO: Do you know about any State in the United States that is presently producing at full capacity?

MR. KNOX: I do not know of any but I couldn't swear there is not some small State that is doing that.

MR. PATTILLO: Now, as to the situation

that is presently confronting the Alberta producer, if this should continue for any appreciable time, in your opinion, will it have any effect on the future exploration and development of oil resources in the Province?

MR. KNOX: Yes, I think it would have a retarding effect if maintained over a long period of time. It would have a retarding effect in several aspects.

MR. PATTILLO: You have been here and heard some of the evidence as to this proposed pipeline to Montreal. If a pipeline was built to Montreal, would there have to be a very substantial increase in the rate of exploration and development in the Province of Alberta?

MR. KNOX: You mean in order to maintain the amount of throughput necessary.

MR. PATTILLO: Yes.

MR. KNOX: Well, the rate of exploration and discovery is one of the hardest things in the world. It goes in fits and starts because it is a little bit like playing a slot machine where your luck is not all the same.

I would say that certainly additional outlets would stimulate exploration which is, at this time, as you know, on a very, very wide basis. The question is whether that the expenditure of money could be sustained and accentuated.

MR. PATTILLO: Have you or has your company given any consideration as to what is the best thing to do with the present situation confronting the Alberta producer?

MR. KNOX: I have given quite a little bit of thought to it personally. I am rather torn between the various advantages and the disadvantages to Alberta and Canada of the various steps.

MR. PATTILLO: Would you develop that?

MR. KNOX: Well, obviously, if more Canadian oil is developed and sold to the east, there is a saving of foreign exchange. If oil moves further east there are probably certain defence elements in having pipeline oil or sea-borne oil which would have risks in wartime.

There is an advantage to Provincial Governments and to the National Government in taxes. All of those certainly point out that it is desirable to capture new markets if it can be done economically. If it can be done economically, I see no disadvantage to that.

If it cannot be done economically then I think you have to look at the corresponding disadvantages which involve conceivably the freezing of a large amount of assets in something that is less economic than you could do otherwise.

As I say I am somewhat torn between the different advantages and also I find it very difficult

in my own mind to be sure that the estimates of output to the West Coast will be of the quantities envisioned which will be enough to relieve you. There is a possibility; but I think that all the goodwill in the world, all the companies involved, you must realize that essentially competitive prices for the purchase of crude are going to control. If they do not, why somebody else comes in and buys the crude cheaper and puts the original refiner out of business; so I think you have to take a very hard look at the possibilities there.

I certainly feel that ultimately, if you ignore the time factor -- ultimately the Puget Sound area and the other portions of the Western North America will be fine markets. They are growing in population. They are growing in automobiles. They are growing in industry, but it is the matter of timing about which I am not sure.

I think you have to look at the fact that Indonesia crude -- which by the way is a very fine crude aside from the price advantages. As I understand it, it has some extraordinary fine other qualities and that will be a serious competitor.

I think you will find that the Middle East crude under certain tanker rates, if you move your tanker rate down to NC -- 50 to 60 you are looking at serious competition there. Then whether you will weather the productional aspect which is there

or whether a large amount of production will come in, I do not know, but you have to recognize that it is on the coast and it is immeiiately accessible.

All these factors make me loath to make a dogmatic statement that in a very early time there is going to be a large increase in production. I think it is always a possiblity.

Now, I have seen many times in my lifetime reversals of trend in supply and demand. It seems to me that practically always there is an over-supply or under-supply. At the moment we are in a worldwide position of temporary over-supply. I would hope the change in the industrial situation and in the consumption of not only North America, but Europe and the rest of the world, would correct that situation, and that here we come out into a new era of prosperity where people are seeking our oil rather than us having to seek markets, but I would have to say that there are certainly many elements of doubt about the timing of that.

MR. PATTILLO: Would your company and your parent company, if assurances were given by the Prime Minister of Canada and the Minister of Justice that there would be no studies subsequently made by the Combines Commissioner, be prepared to sit down with the other producers in Alberta to see what could be done about increasing the market for Alberta crude immediately, and seeing what your parent would be prepared to do to assist in that increase?

MR. KNOX: California Standard Company and Standard Oil Company of California -- the legal advice for Standard of California is that we are held harmless both in Canada and the United

States from any such thing as a combines Act or anti-trust Act in the United States, or any other Act. If we have that assurance, we will be very happy to do so.

MR. PATTILLO: Have you asked your parent company whether, without any sitting down with other companies, it was prepared at this time or in the immediate future to take in Canadian crude to assist in increasing the market for Alberta crude?

MR. KNOX: I made rather continuous but completely unsuccessful attempts to sell Alberta crude in competition with Indonesian crude. The price difference was greater than my eloquence.

MR. PATTILLO: When I was asking you as to what might happen as to exploration and development work in the Province of Alberta if a pipe line was to be built to Montreal with a throughput of more than 200,000 barrels a day, what I was really seeking to find out was whether you thought it might result in such an increase in exploration and development that by the time the pipe line was ready to operate the producers in Alberta would find themselves again in the same position they are today in so far as the percentage of production is concerned.

MR. KNOX: That is conceivable, but again the uncertainties of results of exploration

work are such that while you can make possibly reasonable industry projections over a long period of years, it is very difficult to do it for a period of one, two or three years.

MR. PATTILLO: Those are all the questions I have, Mr. Chairman.

THE CHAIRMAN: Well, I am sure Mr. Knox would appreciate a ten-minute break now.

---A short recess.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing. Mr. Frawley?

MR. FRAWLEY: Mr. Knox, you have been quite active in the affairs of the Canadian Petroleum Association?

MR. KNOX: Yes, sir.

MR. FRAWLEY: You have been President?

MR. KNOX: I believe the title is Chairman of the Board, sir.

MR. FRAWLEY: Mr. Knox, perhaps you would pardon me telling you that, in the circles in which I move, I have got the impression that you are regarded as being one of the most objective persons in this industry in the consideration of our present problems.

Is that a fair thing to say to you?

MR. KNOX: Mr. Frawley, I always appreciate flattery, even if it is undeserved.

MR. FRAWLEY: Now, Mr. Knox, I have very little to discuss with you. You tell us you understand Texas is about as badly off as Alberta?

MR. KNOX: As far as pro ratable oil, in the ball park there, it is of the same order of magnitude.

MR. FRAWLEY: And that ball team down there are just hollering their heads off to restrict imports of crude?

MR. KNOX: That is correct. There are

literally thousands of Independents there and they are quite vocal.

MR. FRAWLEY: Mr. Knox, you have given some consideration to the question of gas export from Alberta, have you not?

MR. KNOX: Yes, I have, and it is a question of importance in several aspects.

MR. FRAWLEY: Well, there is just one aspect I would like to put to you. Would you think that a policy which permits Alberta to export the gas which is surplus to her own needs will help the oil industry of this province?

MR. KNOX: Very definitely so, sir.

MR. FRAWLEY: I have only one more thing to put to you:

You have some misgivings about our market in the Puget Sound area?

MR. KNOX: I have misgivings as to the date when we can set that on a large volume.

MR. FRAWLEY: And you have pointed out this morning that there is Indonesian crude, as you said, good Indonesian crude, going in there at a price which makes somewhat doubtful the competitive economics of our own crude going in there?

MR. KNOX: I believe I said it could go in at that calculated price which British-American has given, which was not part of what I would calculate, and that I do not have any data as to showing it

actually going in; but its competitive position is as you describe it.

MR. FRAWLEY: You told us this morning that because of defence considerations and other considerations which you mentioned you felt that if our crude could go to Montreal economically that there just was no argument?

MR. KNOX: That is correct, sir.

MR. FRAWLEY: Then I put it to you, Mr. Knox, that on that sort of premise it behooves us to take a good, hard look at the question of getting our oil to Montreal.

MR. KNOX: I agree with that.

MR. FRAWLEY: Thank you very much.

THE CHAIRMAN: Mr. Knox, you spoke of the Puget Sound area and you say it is a matter of timing more than anything else; but would you consider that even though that time were to be a short time, that that would be a stable market, having regard to the history of the oil industry itself, world-wide?

MR. KNOX: I think you have to recognize that refiners on Puget Sound are all in volume. Now, they are connected by pipeline to Vancouver, down to the refinery now in operation, and there is provision made for the pipeline to extend on down to the Standard Refinery, when it is built.

But then those refineries will be in a

position to get competitive crude, and I would say the normal profit incentive would still impel them to buy the cheapest crude. Now, there is a certain amount in steady contracts; if you are running a crude, a refinery will prefer to stay on with that crude, because it costs money to shift, there is shift design, so while that is not as strong a factor in oil as it is in gas, it still has some effect.

But I would think, for instance, that the new refinery, when it is built there, you probably would find it designed to try to use competing crudes.

THE CHAIRMAN: Do you think the Alberta producer would have a better opportunity to supply that market in due course in the Puget Sound area if pro rating were not in existence in Alberta?

MR. KNOX: That is a very difficult question, sir. Pro rating is a sort of mixed blessing. It prevents chaos. It prevents all sorts of legal arguments regarding whether it is a capture of one sort or another, just what your rights are. On the other hand, it tends to protect marginal oil.

Now, without pro rationing and having just a free-for-all fight as to who would go out, the most economic production would win. The marginal production would simply not be produced or they

would not drill more marginal wells.

Now, the aspects, again, in that, are manifold, in that by so doing perhaps there are some economic advantages: maybe you can produce the oil a little cheaper because you are producing a better oil, and maybe you can push the market slightly farther. On the other hand, you tend to hurt a lot of individuals. There are a lot of small producers who would be very sorely hurt by that, and I think the small producer, in a broad, general way, has a very useful position in the industry.

So I say, summing it up, while you might possibly gain, for instance, instead of getting your percentage share of production you can take your own production, still I am inclined to question the over-all advantages.

THE CHAIRMAN: Do you think the small, independent producer would be hurt greater by a lifting of pro rationing than he would be by a continued locking-in of his production in the ground?

MR. KNOX: I am inclined to believe that the change of method from pro rationing to non-pro rationing would not yield a sufficiently great increase in market to make up for what he would lose.

Now, as I say, again, that is a very, very difficult thing to appraise, but I lean towards that

viewpoint.

THE CHAIRMAN: Then you would lean towards the conclusion, I assume, from what you say, that pro rationing leads to orderly marketing?

MR. KNOX: Yes, I think so. Of course, you have to differentiate between pro rationing and conservation methods. You can have those without pro rationing.

THE CHAIRMAN: Quite.

MR. KNOX: But I am inclined to think it leans towards orderly marketing and, actually, if pro rationing were in effect in the world, there might be a little less disorderly system than there is now.

THE CHAIRMAN: We have had discussions before us with respect to this export market, which includes not just the Puget Sound area but also the midcontinent and mid-western. What would be your own views as to Canada's likelihood of capturing any sizable portion of that market?

MR. KNOX: I would be inclined to think that that would grow very slowly and gradually, as you are in competition with the midcontinent crude, you are in competition with the eastern crude, and I have not properly evaluated what effect the St. Lawrence Seaway will have there. That is a factor to which I have not given enough consideration to have a sound opinion but, in a broad, general way, I think you will grow gradually.

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THE CHAIRMAN: Would you agree that with the cost of trans-middle crude in the United States, due to depreciation of pipelines, and that sort of thing, even the mid-western field in the United States or market in the United States would be an unstable market for Canadian crude, even though it got there?

MR. KNOX: It would be a highly competitive market for oil, and I think there would be elements of instability for a while.

THE CHAIRMAN: And one could argue, could one not, that even with the increasing demand in that area, as time goes on your trans-middle cost will go down and it will be even more competitive to Canadian crude than it now is?

MR. KNOX: Well, of course, I believe that the United States itself is in an older stage of exploration and production than Canada, and I think that there will be a gradual increase in the need for imports of crude oil. As far as the domestic economy is concerned, I think they will have to look outside the country for new amounts of crude. The trouble, as far as we are concerned here, is that there are many sources for that crude.

THE CHAIRMAN: And you have got your largeproducing companies using or having rights to what one would call concession oil in countries

like Venezuela and the Middle East with lower developing, lifting cost. I would think that Canadian crude would become less competitive as time went on. At least I suggest that to you, and I would like your views.

MR. KNOX: Of course, the Middle East crude is a tremendous factor in the world situation. With our reserves running into hundreds of millions of barrels, it is obvious from an examination of any of these briefs that they are not producing to anything like as high a rate as Canada and the United States. People in these countries are going to be anxious to increase that production and, of course, anxious to get as good a price for it too, and the people in these countries will wish to put their fair share of crude on the market, and they might argue that their fair share is even larger than it is now. It becomes a matter of how much they push the price down in order to widen their market.

THE CHAIRMAN: Not only in the interest of these countries but also very definitely in the commercial interest of the oil companies who have the rights to produce the oil in those countries.

MR. KNOX: Yes, I would think so. Actually I would also think, just as a personal observation, that probably a fair share of the world

market is in the free world, and actually the industrial activity of Europe demands upon the activity of those markets. So despite the pain it is giving us, I think we have to look a little bit at that viewpoint and that they should try to get along on that.

THE CHAIRMAN: And that is why we can't look at the situation, as I see it, from the point of view of Alberta alone, of Canada alone; you have to take these factors into account when you are considering capturing the United States markets.

MR. KNOX: I think that is so, sir.

THE CHAIRMAN: Thank you.

MR. COMMISSIONER BRITNELL: Mr. Knox, I am not quite sure whether you have answered my question in answering the Chairman. I think I am thinking perhaps of a slightly more circumscribed area than the Chairman was. Would you agree to give us your views on the probable or possible expansion of the markets more remote from tide-water now enjoyed by western Canadian crude in the St. Paul-Minneapolis area in particular, (a) in the short run, and (b) in the longer run?

MR. KNOX: Well, it seems to me that the St. Paul-Minneapolis area is a logical outlet for some Canadian crude, and, of course, there is a pipeline established there catering for

medium gravity crude. I am inclined to think that that market will grow, and perhaps the St. Paul-Minneapolis circumscribed area will grow a little more there. It is not quite so susceptible to competition, so I would be inclined to suggest it is in a little bit more favourable light than the broader area the Chairman mentioned.

MR. COMMISSIONER HARDY: Mr. Knox, there is one question, just to get the record complete, that I would like to ask you. Is it correct that Standard of California has a subsidiary in Trinidad?

MR. KNOX: Yes, sir, we have a subsidiary in Trinidad. I might mention that I did not give a complete list of the subsidiaries; I think it would be a waste of time. The annual report of the company has a complete list of the subsidiaries.

MR. COMMISSIONER HARDY: Does that subsidiary market in Canada?

MR. KNOX: Unfortunately, that subsidiary does not have any production.

MR. COMMISSIONER HARDY: Another question, Mr. Knox. I would think from the evidence that we have heard here where it has been suggested -- not your evidence, but evidence that has been presented previously -- that there is reason to believe that the Ontario market in the Toronto area for western crude could be developed considerably,

and as you push eastward the boundary it becomes competitive with Middle East or Venezuelan oil. I would think that the Standard Oil subsidiary in the Maritimes and also British Petroleums both would be in a pretty good competitive position at the present time to block that expansion eastward to a great extent. Would you agree with that or not?

MR. KNOX: Well, certainly I should preface this by saying that as far as the activities of the Irving Oil Company are concerned, I am no authority whatsoever, but it is my understanding that Irving has been purchasing products outside the country and that they plan to build a refinery and to manufacture those products in Canada rather than import them, in Saint John, New Brunswick. Now, again this is really stepping out of my scope, but to me the natural market is the Maritimes and the eastern Quebec Province. Just what the dividing line is where they can compete with oil put into Montreal, I couldn't say. That would be a subject for quite a detailed market research.

MR. COMMISSIONER HARDY: Thank you. There is one other question directly concerning one of your answers to Mr. Pattillo's questions, and I think you were being a very fine citizen when you admitted that you probably have some

responsibility to develop markets for western crude. Is there anything in any of the contracts that you have with the Government authorities in Alberta that puts that responsibility on you?

MR. KNOX: No, and when I said I felt we had some responsibility I didn't mean a contractual responsibility, I simply meant the responsibility we felt towards benefiting any community we are in.

MR. COMMISSIONER HARDY: But I would imagine that your firm -- you go into wildcatting as well as buying proven reserves.

MR. KNOX: Yes.

MR. COMMISSIONER HARDY: And you pay substantial sums to the Government for the right to do that.

MR. KNOX: Very substantial sums, and naturally that is a change in trend of exploration with larger sums spent on that, and those sums are a help to the Government, but they also add very substantially to the cost of finding oil.

MR. COMMISSIONER HARDY: There is no reason, of course, why the Government bodies concerned would not put in a requirement for marketing if they chose to do so.

MR. KNOX: Dr. Hardy, that is correct. The one point I would like to emphasize is that we feel that the one right we should have is to

continue to engage in activities on the same basis on which we come in. Any restriction that anybody makes is perfectly all right as long as we know ahead of time, but if we go into areas with one understanding and that is changed, why, it is very unfortunate, and it is unfortunate, I think, from several standpoints.

MR. COMMISSIONER HARDY: Well, would it not be correct to interpret your position as being this, that, as manager of a Canadian subsidiary of California Standard, you have a personal interest in your own firm to get as much income as possible from the sale of crude oil?

MR. KNOX: That is correct.

MR. COMMISSIONER HARDY: But when you are selling it internally you must be in competition, and the companies take the same position, they all want to sell their own crude through a subsidiary.

MR. KNOX: Yes.

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MR. KNOX: I am in competition from the aspect of selling crude into corporation channels and naturally I try to push my own sales as hard as I can. I am also in competition -- since I have not been so fortunate as to get into the position of sending money to them rather than the reverse. I am in competition in money. In other words I am somewhat in the position of a man who goes to a bank and says, "I have a good venture. I want to get some more money." We are very definitely in competition from those two aspects.

Now, if we reach the stage where we are generating enough to cover all outlays, why, that may change somewhat; but to date we have not been able to do that.

You can look at that and I have looked at that from the standpoint that Canada is a fine place to invest and therefore a corporation should continue to reinvest any money and should add to it.

MR. COMMISSIONER HARDY: Thank you very much.

MR. COMMISSIONER HOWLAND: Mr. Knox, I would like you to follow that conversation on that point a little further. What type of thinking do you meet with your parent company when you put these arguments to them?

MR. KNOX: For some reason I think I

have a slight bias in my favour there.

It is difficult for me to argue, for instance, that the return on investment will be as good in Canada as it will be, for instance,in the Persian Gulf. I just lose all arguments there and it is pretty difficult to compare with Indonesia and I think from the industry's standpoint it would be difficult to compare it with Venezuela; but one of the arguments I have continuously used is the fact that I feel that we can count that once an undertaking has been given, we have entered an area in Canada and we can operate under certain conditions there indefinitely due to the character of the people.

MR. COMMISSIONER HOWLAND: That is really a most convincing argument.

MR. KNOX: That is the best argument I have.

MR. COMMISSIONER HOWLAND: Just one other thought. You have stressed particularly the competitive position of Indonesian oil in evaluating the competitive position on the West Coast.

MR. KNOX: Yes.

MR. COMMISSIONER HOWLAND: I believe your company has some operations in Indonesia.

MR. KNOX: Yes. We operate there primarily in Sumatra and there is crude near the

north coast of Sumatra which we developed jointly with a partner and that crude has been building up rapidly in the last few years. It is comparatively shallow depth. It is accessible to ocean transportation. It is a fine quality crude.

It looks like at the moment a successful venture which should repay for some of the unsuccessful ones.

MR. COMMISSIONER HOWLAND: Your thought here is that because of the quality and the competitive advantage in regard to price that this is probably, even in the long run, going to be the major competitor on the West Coast?

MR. KNOX: Well, on the basis of economics I would regard it as the No. 1 competitor. I would say that probably the No. 2 competitor is the Middle East crude on the West Coast at this moment.

I would be inclined to look at Venezuelan crude as the least economically on the West Coast of the three. That ignores, of course, possible Alaskan crude.

MR. COMMISSIONER HOWLAND: I was very interested in your capacity to climb above this problem and discuss it, as Mr. Frawley said, objectively and a question was raised -- I am not sure whether it was by you or by the Chairman -- regarding this somewhat larger problem of a free

world in the use of these resources -- world resources of oil with some kind of allocation on a world basis.

My thought at the time just reached towards the positions of Canada and the United States. The United States, as we all recognize, is the large partner in this problem of ours and it struck me at the time it would not be fair to ask Canada to bear any bigger portion of that generous or maybe sensible attitude in regard to restricting imports than the United States shall bear.

How do you feel about that? This is not a view of mine. It is just a thought at the time. Is this reasonable?

MR. KNOX: Well, I am inclined to think that world responsibility is roughly representation by population. In other words I am a little bit inclined to look at each individual and say every individual in the world has a similar responsibility.

MR. COMMISSIONER HOWLAND: Thank you very much.

THE CHAIRMAN: Mr. Knox, thank you very much indeed for coming here this morning on such short notice.

I might say that your reputation had preceded you as far as the Commission was concerned and we all had a high regard for you by

reputation before you arrived. I can assure you that regard has not been lessened by what you have been able to contribute to our problem this morning and we are very grateful, and I want to thank you very much, sir, for coming.

MR. KNOX: Thank you.

THE CHAIRMAN: Gentlemen, before we adjourn I notice Mr. Rea is amongst us this morning and there is a question which I wished to ask him which I had omitted to do yesterday afternoon and since he is still here, I am wondering if he would be good enough to come up and allow me to ask him one or two questions with respect to his personal views.

I am sorry to do this to you, Mr. Rea, but I know you do not mind, at least I am sure you don't.

I had it in my mind yesterday to ask you and then omitted to do so when we adjourned whether you would give the Commission your per-personal views, having regard to your wide experience during the last war as one of the very senior men in oil control in our country, what you would feel from the point of view of national security if the movement of oil crude to Eastern Canada, and including that to the Montreal market, is left to oceanborne tankers in the event -- which, God forbid, will not happen -- of a threat to our

national security.

MR. REA: Well, Mr. Chairman, taking it step-wise, I think if we get into another war I would assume right off the bat that trans-ocean movements, Atlantic-wise, Pacific-wise, for crude oil would be cut off.

We would then look at the problem from the Western Hemisphere standpoint and move crude oil in the manner where it could most effectively be protected.

I think first along the West Coast here in Canada would pour into the West Coast crude oil in great volume.

On our East Coast they would possibly be supplied one hundred per cent by aerial umbrella from Venezuela to Halifax and Montreal.

Supposing the war got a little hotter and tanker movements became difficult, as they did in the last war, when I recall that Halifax was cut off from crude for a short period of time; then the next measure would be to attempt to supply all the refineries by inland movement.

I would assume then that, taking the Canadian picture, the West Coast of Canada would be all right through Trans-Mountain pipe line. The Prairie Provinces would be all right. The Province of Ontario would likely be taken care of through Interprovincial pipe line.

Now then, what about Montreal? Possibly what we would look at would be finding out how quickly we could expand the facilities of International Pipe Line through additional pumping stations, etc., to get a greater volume into Ontario, and secondly, we would consider running a pipe line from the end of Interprovincial to the Toronto area directly to Montreal. That may be also supplemented by tanker movements from Superior through the St. Lawrence waterway system right to Montreal.

As a suggestion, in a national emergency there might be some merit as a defence measure in having a stockpile of say 20 or 30-inch pipe that could be strung from Toronto to Montreal, if need be. The right-of-way is already there for Trans-Northern pipe line.

It may be well to ask the engineers of Interprovincial how quickly and what additional capacity could be installed by additional pump stations through a certain grouping to provide adequate throughput so as to get an additional quantity to Montreal on short notice.

THE CHAIRMAN: That would still leave the problem of supplying Nova Scotia and New Brunswick.

MR. REA: Yes, I think that would be difficult if tanker movements were entirely cut

off. Somehow that oil could possibly move from the Ontario refineries or from the Montreal refineries by movement along the St. Lawrence waterway system and the Gulf in through certain areas of the Maritime Provinces.

THE CHAIRMAN: By tanker from Lake Ontario.

MR. REA: By tanker from Lake Ontario or from Montreal.

THE CHAIRMAN: Thank you very much, indeed, Mr. Rea. I am sorry to have asked you to come back but I omitted that question which was in the minds of the Commission, I think.

Has any member of the Commission any question to ask?

Thank you very much, indeed.

MR. REA: Mr. Chairman, supplementing my testimony this morning on the problem of supplying the Montreal area in case of war and assuming tanker movements were cut off; I referred to the possible extension of Interprovincial pipe line from Toronto to Montreal.

Inasmuch as the movement of oil would be dealt with on a continental basis, it is quite possible the great network of large diameter pipe lines from the Texas and Mid-continent areas would supply the Sarnia refineries (170,000 barrels daily) permitting the full stream of Interprovincial

pipe line to go on to Toronto and Montreal.

THE CHAIRMAN: Thank you again, Mr. Rea.

Gentlemen, we will now adjourn the hearing until Monday morning in this room at ten o'clock at which time Mr. Levy from New York will give testimony to the Commission.

---Whereupon the Commission adjourned at 11.51 a.m., until 10.00 a.m., Monday, May 12, 1958.

Mr Borden

This Volume is issued to
replace the original Volume 40.

ROYAL COMMISSION

ON

ENERGY

HEARINGS

HELD AT

CALGARY,

ALTA.

VOLUME No.: 40 DATE: MAY 12 1958

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5572	5600	5649	5687
5575	5608	5650	5688
5576	5609	5653	5689
5577	5610	5660	5690
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5595	5646	5679	5704
5596	5647	5683	

C O R R I G E N D U M

VOLUME 36

Page 5024, line 16: delete "government" and substitute "approximate"

Page 5025, line 10: delete "ever" and substitute "even"

Page 5033, line 5: delete "with"and substitute "until"

VOLUME 37

Page 5218, line 11: "3,400" should be "5,400"

Page 5219, line 25: "Fuel" should be "field"

Page 5223, line 11: Change "active" to "actual"

Page 5224, line 2: Change "mechanics" to "economics"

ROYAL COMMISSION

ON

ENERGY

Hearings held at Calgary, commencing Tuesday, April 29, 1958, at 10.00 a.m.

PRESENT:

Mr. H. Borden, C.M.G., Q.C. -- Chairman

Mr. J.L. Levesque -- Member

Mr. G.E. Britnell -- Member

Dr. R.D. Howland -- Member

Mr. L.J. Ladner, Q.C. -- Member

Dr. R.M. Hardy -- Member

COMMISSION COUNSEL:

Mr. A.S. Pattillo, Q.C.

Mr. Miles H. Patterson.

Mr. J.F. Parkinson -- Secretary to the Commission.

Major N. Lafrance -- Assistant Secretary to the Commission.

Monday,
May 12, 1958.

---On resuming at 10.00 a.m.

---Mr. Commissioner Levesque was not present.
---Mr. Commissioner Ladner was not present.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing, Mr. Pattillo?

MR. PATTILLO: Thank you, Mr. Chairman.

This morning we are going to hear the evidence of Walter J. Levy. Mr. Levy and his associate Mr. Lipton have come here today at the request of the Commission and at their own expense. Mr. Levy prepared a report for the Home Oil Company which is part of the Home Oil's submission, as you know, but that submission is finished and he is here in an independent capacity without a retainer from anyone.

Mr. Levy, where do you presently reside?

MR. LEVY: In New York City.

MR. PATTILLO: And what is your occupation?

MR. LEVY: I act as economic oil consultant to private companies, governments and other business organizations.

MR. PATTILLO: Would you please detail your education, your experience to the Commission?

MR. LEVY: Certainly. I was born in Germany, educated in Germany and England. I started to work in a press and economic office for the oil industry in London in 1936. I came to the States in early 1941, and I worked for a short time, part

time for the Fortune organization. Then I went to the office of Strategic Services in Washington, D.C. I was, during the war years, first in charge of its oil work -- under the Joint Chiefs of Staff. I was later concerned with the problem of oil supplies to liberated areas. After the end of the war I was engaged in petroleum research for the Department of State in Washington, D.C. I resigned from government service, from U.S. government service early in 1948 and became economic advisor to the Socony Mobil Oil Company. After three months Paul Hoffman, who was then appointed as the head of the Marshall Plan organization, asked me to take care of the Petroleum program for the Marshall Plan. I resigned from E.C.A. in 1949 and opened an office as oil consultant in New York State. I have since that time acted as consultant to many corporations, and I have acted also as consultant to the United States Government. Particular events of interest may be the Iranian oil crisis where I went with Mr. Harriman to Iran to

help in the crisis, and during the Suez crisis I was appointed by the United States Government to help in the oil supply to Europe in 1957.

That may give you some of the background you may wish to have.

MR. PATTILLO: Thank you, Mr. Levy. Now, Mr. Levy, you did prepare a report at the request of the Home Oil Company and a short supplement to it which have been filed in evidence here as part of the submission of the Home Oil Company and the associated companies.

MR. LEVY: Mr. Pattillo, that is correct. May I perhaps use this opportunity to introduce to the Commission my associate Mr. Lipton who worked a great deal in this job, and any credit is his as much as it is to the organization. I say this before a critical comment is made.

MR. PATTILLO: I would first like to direct the Commission's attention and yours to the supply and demand situation in the world of oil today. I wonder if you could briefly develop that for us, telling us which are the producing countries and which are the consuming countries in your explanation.

MR. LEVY: The oil-producing countries, just to get them out of the way, are the United States, Venezuela, Canada and some other Latin-American countries (I don't want to list them all; and, of course, in the Eastern Hemisphere, first and foremost the Middle East

countries, in particular Saudi Arabia, Iran, the Sheikdom of Kuwait, Iraq; and again a few smaller ones in the Far East, Indonesia, and then you have a host of countries in the Eastern and Western Hamisphere who produce a little bit of oil.

Now, you asked me about the supply and demand position, and obviously, as we know, at the moment there is a world surplus of oil.

MR. PATTILLO: Approximately how long has that situation existed?

MR. LEVY: As an acute situation, I would say it has developed shortly after the Suez crisis. If the crisis had not occurred, my guess would have been that the surplus would have become apparent before. I may also add that as a potential situation and as a potential surplus, I guess we are facing that surplus situation in the absence of political and other supply crises of concessionary developments such as happened in Iran resulting in the interruption of supplies, and we will be faced with a surplus for a very, very long time to come.

MR. PATTILLO: That is unless some emergency develops whereby a source of supply is cut off.

MR. LEVY: I would say that is correct, sir.

MR. PATTILLO: What are the leading consuming countries in the world of oil?

MR. LEVY: The leading consuming countries would, of course, be in the first instance the United

States, and I would say then you would have the United Kingdom, Canada; and Europe as a whole, of course, is the second largest consuming area. You don't want me to give the individual countries?

MR. PATTILLO: No. Can we for a moment look at those consuming countries and first deal with the United States? What are the present sources of supply of oil that is reaching the United States?

MR. LEVY: First and foremost there is the domestic industry which is producing at a reduced rate considerably below its potential, and then we are drawing on imports. I might add, perhaps, that there is a surplus capacity existing right now in the United States which is on the order of 2 million to 3 million barrels a day.

MR. PATTILLO: If they were producing the maximum they could produce that many more barrels.

MR. LEVY: That is correct, sir. We are drawing on imports for the United States; our source of supply, for instance, consists of crude oil as well as refined oil in large quantities from the Caribbean, and then we obtain supplies in addition from a number of Middle East countries and some supply from Canada.

MR. PATTILLO: Now, the United Kingdom: what is the source of its supply?

MR. LEVY: I would say to the extent of

70 per cent or 80 per cent Middle East sources, plus some supplies from Venezuela. The Dutch West Indies have refineries which mainly utilize Venezuelan oil.

MR. PATTILLO: Is there any United States oil going into the United Kingdom today?

MR. LEVY: There may be some specialty oil; there may be a trickle of crude and supply of lubricating oil may take place. During the Suez crisis, of course, that was altered and a large export of products took place.

MR. PATTILLO: And Europe, what would its sources of supply be?

MR. LEVY: In general, the same as those of the United Kingdom. You can assume, to make it perhaps on an overall basis a little more simple, that the Middle East supplies 80 per cent to 90 per cent of Eastern Hemisphere requirements, another few per cent come from Indonesia, and the remaining quantities to all intents and purposes from Venezuela and the West Indies, and that the Western Hemisphere draws its supply to the extent that local resources are available from local production, supplemented by Venezuelan production, and I believe that gives you more or less the overall picture of world oil supplies.

MR. PATTILLO: To sum up, would it be correct to say that outside of specialty oils and perhaps the odd trickle, the United States is using

its own oil and not exporting it?

MR. LEVY: That is correct.

MR. PATTILLO: And about how long has that situation prevailed?

MR. LEVY: I think we became a net importer sometime in the '50's. Of course, not for the first time; I think they were a net importer after the First World War too, but basically the days of United States imports are, to all intents and purposes, over.

MR. PATTILLO: Now, I would like to discuss for a moment, if I may, because of its proximity and its influence over the North American continent, the control of the sources of supply in the United States. Am I correct in thinking that the producers in the United States can be broken down into three categories: the independent producers who are solely producers; continental producers that are carrying on an integrated operation but are confining their operations to the United States only; and international companies who are carrying on an integrated business in the United States and also in other countries in the world?

MR, LEVY: If you want you can divide the oil industry in this manner. I would like to point out that great changes are taking place in the categories in which you listed them. I would say basically that independent or continental producers, as you call them right now, would love to become an international producer and they are making efforts to do so on a large scale.

MR. PATTILLO: In that trend, that has been in force for the last ten years and companies are gradually getting into international situations?

MR. LEVY: That is right. There has been a terrific increase in the number of companies, smaller and larger ones, who have gone out of the United States and are looking for oil in the oddest places you could think of.

MR. PATTILLO: I can think of some pretty odd places.

MR. LEVY: There they do not look.

MR. PATTILLO: Now, can you tell me whether I am correct in thinking that the large international companies that are operating in the United States are Standard of New Jersey, Shell, Gulf, Texas, California Standard and Socony. There may be others, but are they all international in the sense that I have used the word?

MR. LEVY: Yes, of course Shell when you consider them to be internationally owned,

their parent company is a British company.

MR. PATTILLO: But are there any other large companies having an integrated operation in the United States that I have not named?

MR. LEVY: Not that amount to a very big thing.

MR. PATTILLO: May we just look at the situation in Venezuela for a second? How would you classify the companies that are in the producing business in Venezuela?

MR. LEVY: Up to a few years ago most of the production in Venezuela was obtained by three of the international companies you listed, namely Standard Oil of New Jersey, Shell and the Gulf Oil Company.

However, in the last two years or so there has been a tremendous influx of other companies, exclusively, I believe, American companies, into Venezuela. When they opened up their concessions, their new concessions, I believe they obtained about $700 million for new concessions. I might also add that some of the companies that went into Venezuela a year or two ago appear to have found large oil resources already as a result of the new efforts being made.

MR. PATTILLO: Now, would you explain to us how the Venezuela government operates with

their producers there, just generally? In other words, you have made mention of concessions. Would you explain how concessions are obtained generally, the type of obligation that the government requires?

MR. LEVY: Venezuela under its petroleum law, which I believe was drafted in the 1940's, at that time asked oil companies to put their concessions under this law. Up to that time there were a variety of laws under which concessions had been obtained and ever since the hydrocarbon law is a yardstick for concessions in Venezuela. Now, the government had still retained oil rights over very large parts of Venezuela which had not been taken up by anybody and they had not issued concessions for at least ten -- I don't know exactly the figure, prior to 1956 or 1955. Then they started to delineate areas which would become available for concessions, large blocks, usually in blocks of 25,000 acres or so. Many of these blocks were areas which had not been utilized before. Other companies had become interested in areas for oil search and the Venezuelan government offered these areas in large blocks asking for competitive bids from companies who were interested in obtaining them. They asked, first of all, for bonuses; secondly, in many instances, they asked for commitments on royalties. In

other instances they asked for obligations to at least refine a certain part of the production and the figure usually was 15 per cent or so. Then they asked in other instances for, as they put it, advantages to the nation such as assistance in their own petrochemical business -- first for uranium, and on that basis bids were made by a large number of companies and bonuses were, I believe, as high as about $2,000 per acre.

MR. PATTILLO: Now, in Venezuela are any of the producers faced with a situation where whether they sell production or not they are required to make minimum payments to the government, something similar to a take-or-pay clause?

MR. LEVY: Not in that sense. I would have to check but I am sure not, and I would like to say there are not minimum payments; there are certainly no punitive clauses along that line. If you do not produce you do not have to pay royalty or income tax, but there are certain payments which may have to be continued.

MR. PATTILLO: Now, are all mineral rates in Venezuela, including oil and petroleum, owned by the government?

MR. LEVY: Under the present law, yes. There were some instances in the past, and there are still some private royalties, but at the moment, no.

MR. PATTILLO: Now, let us turn if we may to the Middle East. What type of producers would you find in the Middle East in the countries that you named, and I am only dealing with the principals.

MR. LEVY: The principals, you would have the major international oil companies as concession owners. However, in the last few weeks there have been important changes for more new concessions under changed terms and they have been given to an Italian group, to a Japanese group, and they have been ratified by the Iranian parliament to the Standard Oil of Indiana.

MR. PATTILLO: Now, which are the main companies that are presently in the Middle East?

MR. LEVY: The main companies would be Standard Oil of New Jersey, Gulf Oil Company, Shell, Socony, Standard Oil of California and Texas. There you have them all.

MR. PATTILLO: That is the trouble; I have not, but I have their names. Now, can you give us some idea as to the conditions under which they operate in the Middle East?

MR. LEVY: In the Middle East, the concessions, at least to the extent that they affect these major oil companies, were all issued a considerable time ago, some as early as 1906 or 1907 -- the concessions in Iran -- and then in the 1920's

or 1930's. These concessions are usually for very large areas. In some instances originally they covered the whole country. They are concessions which originally started with commitments to pay a certain royalty per ton of oil produced -- at that time 4 shillings gold per ton produced. Now, all of these concessions have become what is commonly known as 50/50 concessions and it consists of a royalty payment and is subject to income tax, which will bring the government's share for the total profit to about 50 per cent, and later that may have some implication on price questions.

MR. PATTILLO: The other thing I was going to ask you, is there any requirement out there by any of the governments that there be a minimum production area, that royalties are based on minimum production, whether they achieve it or not?

MR. LEVY: There are certain payments in lieu of concessions which are usually very small, but as a practical matter I would guess -- I do not know how healthy the position would be if their production continually declined rather than increased. In that case I would not like to be in the company's position on that basis.

I might also add that when the Iranian oil prices were settled Iran insisted upon at

least a production up to the -- they have been expanded in accordance with the general expansion of Middle East production.

MR. PATTILLO: Now, in Canada am I correct in thinking that the people who are in the producing business in Canada could be broken down into the same groups that I have mentioned in the United States, namely independent producers, what I have called continental integrated companies and international companies?

MR. LEVY: I guess that would be correct.

MR. PATTILLO: Now, can you give us some ideas of methods of conservation and pro ration that are in force in these particular areas that I have been discussion, first of all, in the United States?

MR. LEVY: Let me preface it with this: I would not claim to be an expert in production economies or conservation but I can give you the general picture.

MR. PATTILLO: That is what I want.

MR. LEVY: In the United States, of course, we have -- take the case of Texas, we have pro rationing. That is not the case in all of our States; some of our States we do not have that but Texas being the most part of our industry it is of particular relevance in the situation.

MR. PATTILLO: About what percentage of the output of the United States comes from Texas?

MR. LEVY: My guess is around 46 per cent to 50 per cent, not more. In Venezuela you have no pro rationing, you have conservation as a result of the cooperation between government and industry. The government has established conservation on the companies in possession of these large concessions. The government exercises a great deal of conservation practice, pressuring, gas conservation and what have you, but this is a conservation undertaken over the large areas by the private companies and is government supported.

In the Middle East I would say the Government partner to this is still lacking, but you could, of course, assume that in general, the companies would try to maximize the ultimate return of oil from their concessions to the extent possible under modern conservation methods. That may mean you find more gas flared in the Middle East than Trans Canada will ever be able to sell, but that is a part of the possibilities or impossibilities of finding market outlets and useful outlets for the gas.

MR. PATTILLO: In Canada, would you just briefly for the record, so that we have a full picture in one place, give us your understanding of what is pertaining here?

MR. LEVY: In Canada, I look at the two important parts from the oil point of view; Alberta and Saskatchewan. You have, of course, conservation and prorationing in Alberta, and you have conservation in Saskatchewan.

MR. PATTILLO: Just on that point, from your study of the oil business, there is no problem about practicing conservation without prorationing to market demand?

MR. LEVY: Again, not claiming to be an expert, ever since I saw the record of these hearings I have tried to think about it: when you have a very diverse ownership of oil fields there are

lots of companies engaged in production within the same areas -- within the same pool -- and I believe you would have a problem if you had conservation without prorationing. The fact that you have conservation without prorationing in Saskatchewan, I believe, is something which I am wondering whether it would stay if Saskatchewan's production would be half or one quarter of its potential. If one half of the field could be produced and sold at a conservation rate, and the other half not, there are technical authorities who believe this would not be good for a field -- this unequal rate for the oil. Of course, what it would do to ownership rights or to pricing or to the whole structure of the industry and to the banks who have given money for production, I don't know. I would be concerned if it were applied, say, in Alberta. I would say I have not really studied this point.

MR. PATTILLO: You think when you have diverse ownership, as you have in Texas and in Alberta, as I understand the evidence, that unless you have prorationing to market demand there is no equity as between the various owners?

MR. LEVY: I would be very much inclined to think so. This probably also affects all conservation by the very unequal rate of this oil which might occur. You may also have very extraordinary price effects which in due course might

change the whole structure of the industry.

MR. PATTILLO: I don't want to get into the question of pricing at the moment; we will come to that.

MR. LEVY: I am sure.

MR. PATTILLO: In your report you have used the words "replacement cost".

MR. LEVY: Right.

MR. PATTILLO: And I think I am correct in saying that you said in your report that the replacement costs in the Middle East were very low, and in Venezuela they were not as low, and in Canada they were considerably higher, and in the United States they were highest of all: would you care to expand that for us?

MR. LEVY: Certainly. Let me first say that I noticed you asked all the companies to submit you this data, and I am not going to compete with the companies on that one. As far as replacement costs are concerned, you might perhaps divide them into finding costs, development costs and lifting costs. I will not go at this time, during these hearings, into accounting problems and other problems created by these concepts. However, let me talk for a little while with regard to finding costs.

MR. PATTILLO: Yes.

MR. LEVY: To get the easiest case out

of the way, we have in the Middle East found reserves with probably less than a thousand wells drilled, and you could put any figure on that reserve -- 100 billion barrels or 150 billion barrels, or you could go higher. These reserves have been found by a small number of wells drilled already, and these wells, which were exploratory wells -- the concept of a dry hole is rather unknown in the Middle East; as a matter of fact, I guess whoever finds one will get a medal. So, you have the finding costs for the next 150 billion barrels have already been incurred and, in fact, the wells that found it are producing; so, if you want to, you could put the finding costs for the next 20, 30, 40 or 50 years at zero. That doesn't mean the oil companies are not continuously looking for more reserves: that is part of the game, and interesting, and may be useful. They are not needed immediately.

I would say, if I move right over to the United States, we are not that lucky, and I am sure you are not either. We have to drill a lot of wells and a lot of footage to find new wells. There is an element where a lot of money has to be continuously spent just to keep pace.

MR. PATTILLO: And with no assurance, such as in the Middle East, that it is not going to be a dry hole?

MR. LEVY: That is right. In Venezuela too, you have areas, particularly in the lake area, where you drilled a few wells and pulled up very large resources. That does not happen all over Venezuela; perhaps more companies have lost money than have made money, but at the present time it seems, for instance, the finding costs of the companies who have got into areas in the lake will probably prove to be relatively low as compared what they are now.

If you go now to development costs, let me give you one example: if you produce 5,000 barrels a day per well, and can sustain that rate as long as you wish to per well, your development costs are obviously very different from a situation where you have only 200 barrels a day per well in Venezuela, or 100 barrels a day for Canada, or even less in the United States. Therefore, there is already an indication of the amount of effort and money that has to be spent on finding and developing a certain amount of oil.

Finally, if you produce 5,000 barrels a day, and it flows all the time, and on the other hand you have to pump an 11 barrel a day well, obviously your costs are different too in favour of the 5,000 barrels a day well. When you have this kind of situation, when you look at the Middle East for a moment, and you have your reserves already

in sight, proven and known to you, for the next 50 years of your production, you of course have a very different relationship to the oil in the ground than you have, say, in Canada. Obviously, the oil you have in the ground in the Middle East is something you want to cash in without being too concerned that the barrel you produce is a barrel you have to find again. You are not looking at the cost of replacing that barrel in the ground. The barrel you have in Canada and the United States, which you produce, you know very well you have to find it and replace it, and therefore you figure more closely when you look at the price you get for it; at least, most people would.

MR. PATTILLO: Am I correct in thinking that the real essential difference between these countries is that in the one case, if you are looking ahead, you can look ahead with assurance that replacement is going to be easy and cheap, whereas in the other countries you may know what your historical costs have been but you have no assurance that they will give you a true picture of what your future costs will be.

MR. LEVY: I think you have put it as simply as it can be put. Before I came here to Canada I saw a figure in regard to Illinois crude: there was a report that the replacement cost for

Illinois crude was put at about a dollar higher than the present price which, of course, means that the oil in the ground is your inventory, which, of course, means inventory liquidation at a loss as compared with the replenishment of same. Of course, that is a situation which cannot go on indefinitely.

MR. PATTILLO: You have just given us a brief picture of what you are talking about when you use the phrase "replacement cost" and "finding cost", "development cost" and "operating cost": can you give us any general picture as to the comparative -- and I am not talking about companies -- the comparative figures of these various countries that are publicly known?

MR. LEVY: Yes. Now, figures you mean on replacement costs in the various countries?

MR. PATTILLO: Yes.

MR. LEVY: I could give you some figures which I would say one could figure out by looking at press reports of money spent on production, and so on, but I would feel, as you have access to information of companies who are operating in the area, I would rather prefer you got it from them.

MR. PATTILLO: I am not sure I am going to get it all. I have got to still try.

MR. LEVY: Well, at least, they offered it to the Chairman. If you turn that question

around and ask me, "What is the profit per barrel produced?", I could probably give you at least a better indication than if you asked me about the replacement costs as figured out by the companies. I don't want to invite you to ask that question, mind you.

MR. PATTILLO: You may not have wanted to, but I will ask it just like that.

MR. LEVY: All right. As far as the profit per barrel is concerned, at least there are some indications which one can use because of what is called, or so-called, the 50-50 principle: if the government and the companies share the profit on a 50-50 basis, you might be able to say with some justification that what the government gets, not more and not less, generally will be what the company would get too. As governments publish their figures, you will have an indication of what the companies get. I would like to say these figures should be qualified: you never know what back payments are made or for what period or production they refer to. Also, in some countries it is not 50-50, but 55-45 -- as is the case right now in Venezuela.

MR. PATTILLO: Who gets the 55?

MR. LEVY: The government. Did you expect it differently? However, this is because of a

peculiar situation, but with this in mind, strangely enough the profit per barrel of oil produced in the Middle East and Venezuela, and perhaps in the United States may not differ too much. There will be differences, of course, but I am talking in most general terms. You might have expected a very large profit in one area and a very low profit in another area per barrel. They don't differ too much; that is, after income tax, there may be a difference of 70¢ to $1.10.

MR. PATTILLO: That is in the Middle East?

MR. LEVY: I would say on a very, very broad basis, hoping that no man who knows better will read the record, in most of the other countries.

MR. PATTILLO: So the range would be from $1.10 to 70¢?

MR.LEVY: I would say a dollar, give and take 30%.

MR. PATTILLO: Can we just direct our attention for a few moments to the methods that are in use today for the distribution of oil from the producer to the refiner, and first would you just briefly outline -- and I think perhaps for our purposes we can confine ourselves, when I am talking about inland methods, to the United States and Canada -- and am I correct in thinking that the methods employed are pipelines, rail and tank wagons by truck?

MR. LEVY: I would only add to that barges.

MR. PATTILLO: Down the Mississippi River. What about the pipe line network system that has been developed in the United States: is practically every refinery today being served with a pipe line?

MR. LEVY: Not coastal; obviously, inland refineries are to a very considerable extent serviced by pipe line because it is the most economic means of overland transportation. As far as coastal refineries are concerned, to the extent in California they are closer located to the oil fields, there is pipeline connection again. On the east coast you have tanker connection, the "Inch" pipelines that were built during the war to give some of our east coast refineries oil by overland transportation rather than take the transportation which at that time was not as easy as we would have liked it to be.

MR. PATTILLO: Now, has that pipeline system in the United States been, shall I say, established for a considerable time or is it still developing? For instance, we had some evidence that there is a pipeline being built from the four corners into California which the Shell Company is going to operate. Is there still a good deal of pipeline building going on in the United States or is it pretty well fully developed?

MR. LEVY: In general you could assume that it is fully developed. However, when you have new producing areas coming in, such as the four corners area, or new distribution of refining operations are developed, say, from the East Coast to the Middle West, Philadelphia to Ohio, you find new pipeline construction.

MR. PATTILLO: Now, the method of transportation of oil by sea is by tankers.

MR. LEVY: That is correct.

MR. PATTILLO: And there has been in recent years a terrific change in the type of tanker that is being employed. Would you explain that a bit for us?

MR. LEVY: Yes. We have seen in recent years development of the tanker industry which is really revolutionary. The size of the tanker has increased from T-2 size, which I believe was about 15,000 or 17,000 net weight tons, to tankers up

to 60,000, 80,000 and 100,000 net weight tons. That is an extreme range, but basically we have seen a very great increase in the capacity of the individual tanker unit. That has resulted in extraordinary savings as regards transportation cost. Let me illustrate it to you. During the war years, when all the tankers were under government control, the United States Maritime Commission established what they considered was a fair rate for a tanker-owner to earn on the use of his tanker by the government, and that rate was called USMC rate. That rate was calculated for the various routes where a tanker would go and a dollar-and-cent figure was given to each one of those routes, being called the USMC rate. That rate now for modern tankers, super tankers, which are chartered for a longer period of time, would be about half of what it was during the war years -- half in terms of current dollars, mind you, not real dollars. So the cost has gone down, if USMC was originally a fair rate of return, and -- USMC minus 50 would be a fair rate of return now -- you can figure what it means in terms of economy. It has also had an impact which is of interest to you, perhaps. It has very much increased the competitive range of far distant oil. Middle East oil, for instance, may be carried competitively, of course, at USMC minus 50, which is half the previous rate, double

the distance at the same delivered price, and therefore I would say that in the oil industry the economy of oil operations may be not as important as economy of the transport operations, or at least both must be continuously kept in mind.

MR. PATTILLO: In connection with the last comment you made, have you any knowledge as to whether or not this revolution in tankers has run its limit or are there new and more modern tankers coming off the ways all the time?

MR. LEVY: I am exceedingly reluctant to say that a technilogical development has reached its limit, but it looks to me that at least for the next three years at least the rate will not go down by another 50%.

MR. PATTILLO: Now, we know that in Canada we have two pipelines transporting oil, one the Trans-Mountain, of which you have knowledge, and the other the Interprovincial, and we have evidence here as to the ownership of those lines, the ownership of the companies that own the line, what I would call the refiners who are also in the producing business who have a substantial share interest, but part of the share interest is in the hands of the general public in each instance. Now, what to your knowledge is, generally speaking, the ownership of pipelines that spread through the United States?

MR. LEVY: In general, sir, they are oil company owned. We have now, I believe, one of the gas transmission companies who owns the pipeline, the product pipeline, which is not oil company owned, but to all intents and purposes, the oil companies own the pipelines.

MR. PATTILLO: When you say the oil companies, is it refiners, the integrated company, or the producers? Are there any instances that you know of where companies solely in the producing business own a pipeline?

MR. LEVY: I have not studied that matter sufficiently to tell you definitely that there are no producing companies that own it. You see, what you have in the first instance is that the pipeline is owned by some of the larger companies which produce as well as refine, and I would say you would probably find more refiners, who at the same time are producers, owners of the pipelines. Of course, these pipelines are common carriers. There are all kinds of other implications for them.

MR. PATTILLO: Then would it be fair to say that in the United States, looking at the refineries in proximity to the Canadian border that are serviced by pipelines, we could assume that it was probable that those refineries had some substantial share interest in the pipeline serving them?

MR. LEVY: You would probably find that

most of the refineries are part of a larger company complex engaged in production and refining and distribution. So you see, whether the refiner or the distributor or the owner owns it, you talk about the same company, so on that basis I believe you have to judge the answer.

MR. PATTILLO: Now, what about the tankers? Do we find the oil companies owning the tankers too?

MR. LEVY: We have seen a development, again in the post-war years, when an increasing share of the world tanker fleet, an increasing share, not the majority, was, in fact, by independent tanker-owners, the famous Greeks, for instance. That was the result of the financing methods that became applicable to the tanker construction business in the post-war period. An independent owner went to an oil company and told them, "Give me a charter for this and this tanker for 20 years and I will build it". He then put that charter to a banking house or insurance company and raised money on the throughput of the oil company and then chartered the tanker out to the oil company. When you look at figures you would probably find that 30% or so of the total tanker fleet -- I would like to correct that figure --may be independently owned, 40 to 50 oil companies, and the other may be government tonnage. I would like to say that a large part of the independent tonnage would be under charter to

the oil companies. If you want to know, I believe the largest tanker fleet right now is probably owned by the United States, the second might be the United Kingdom, and the third one would be Mr. Onassis.

MR. PATTILLO: And Mr. Onassis would have the great majority of his tankers under long-term charter to oil companies.

MR. LEVY: I would say I would hope so at this time.

MR. PATTILLO: Now, what about costs of distribution? First let me direct your attention to pipelines. I am talking now of the cost without taking into consideration a return on the investment. Can you give me any idea as to what is the general experience as to the cost of transporting oil per barrel 100 miles?

MR. LEVY: A cost figure I can't include in that sense, but I may perhaps be able to help you without giving you a dollar-and-cent figure. Now, as far as pipelines are concerned, we mentioned before that, basically, when they compete directly with modern tankers, the pipeline is a little more expensive. On the other hand, in many instances a pipeline saves a great deal of transportation, and therefore it becomes a very economic proposition. Now, dealing with these pipelines themselves, the modern large-scale pipeline,, again perhaps like

the super tanker which we talked about before, is a revolutionary and extraordinary cost-saving facility as compared with the smaller pipelines.

MR. PATTILLO: When you are talking about the large and smaller-sized pipelines, can you give us some range?

MR. LEVY: I can give you a small one of 14-inch and a big one of 36-inch. Now, the large-scale pipeline over long distance can provide transportation service on an estimated kind of tariff rate which would cover its expenses and service investment and provide inducement for the equity owner for -- these are figures I have just seen quoted -- 2.2¢, 2.6¢ per hundred-barrel miles. That is a most efficient large-scale unit over long distance.

MR. PATTILLO: Now, you mentioned a few moments ago that experience has shown that the tanker can transport, generally speaking, more cheaply than the pipeline. Could you give us any relative figures in that?

MR. LEVY: We could figure it out on USMC minus 50, say, from the Middle East.

MR. PATTILLO: Thank you very much. What has been the experience, so far as you know, of these pipelines that are operating through the United States? Are they all being operated so that that phase of the business is in itself a profitable one at the

moment?

MR. LEVY: Definitely, because of the rates and many other things, they are under I.C.C. control control, and, in addition to that, as far as the benefits to the shipper-owner are concerned, they have been under additional controls resulting from a consent decree.

THE CHAIRMAN: Gentlemen, we shall now resume the hearings. Mr. Levy, there has been a little difficulty in hearing you clearly in the back of the room, could you speak a little closer to the mike?

MR. PATTILLO: Perhaps we could have a test, Mr. Levy.

MR. LEVY: Now is the time for all good men.

MR. PATTILLO: It looks as though we have a few of them here.

MR. FRAWLEY: What is the last word?

MR. PATTILLO: Well, if anybody does not hear at the back would they please let us know. We were just talking about these pipelines in the United States before the recess and first, before I get you to develop about the controls and consent by the I.C.C., the consent to use, am I correct in thinking that in the United States once a pipeline is built and it becomes operating it is automatically a common carrier?

MR. LEVY: It is a common carrier if it is not exclusively owned by one particular oil company, it does not offer itself for transportation to anybody else, is not sought after and I believe not needed. I believe those are the words. You have facilities which are exclusive servicing one particular company, then it may not be a common

carrier.

MR. PATTILLO: Then, if a company had a producing field and built a line from its own field to its own refinery and was the sole owner of the line, it would not be a common carrier?

MR. LEVY: It would not. If it crosses state lines it would become one but I have not checked that.

MR. PATTILLO: Would you please explain to us what are the regulatory bodies, how they regulate and what they regulate?

MR. LEVY: I will ask my associate, Mr. Lipton, to enlarge on that subject.

MR. LIPTON: The oil pipelines in the United States insofar as they cross state lines fall under the jurisdiction of the Interstate Commerce Commission. That jurisdiction extends to most of the terms in operation of the lines as they may affect the competitive position of individuals who seek oil out of these lines. It covers tariffs or rates which the crude oil pipelines may seek to charge and the principle that was long laid down in public utilities in the United States, namely that the rate shall be a fair return for a fair value. These rates are laid out by the I.C.C. and they can be reviewed at the request of any shipper who feels the rates are too high or discriminatory. They are also

reviewed on the cognizance of the I.C.C. itself at periodic intervals to survey the rate structure. In addition to control over the rates the I.C.C. exercises jurisdiction over the practices of the lines insofar as it may affect the competitive position of any shipper. For instance, in the past some of our major trunk lines have been asked and have acceded that they reduce their minimum tender requirement so all smaller shippers would be in a position to tender and be accepted on the same basis as larger shippers. Going back to the question of fair return and fair value, I would not want to get too deeply into this lest I become mired in the legal complications but in general the fair rate that the I.C.C. has laid down and it is subject, of course, to change at any time but on the basis of the most recent ruling in cases the fair rate of return has been considered to be some 8%. The fair valuation is based upon a complicated valuation of the I.C.C. itself which takes into account the original cost, depreciation, reproduction costs and so on but one cannot simply look at the capital accounts of a pipeline and come up automatically with a figure as to what a fair value of that pipeline is. That is an administrative process that is undertaken by the I.C.C. to determine what the valuation base for rate determination shall be.

MR. PATTILLO: Let me see if I understand what you are saying there. It would not be proper, if you wanted to determine what the base was to merely look at original costs less depreciation, you would also have to enter probably into replacement cost figures of the line in addition to that factor and the original cost factor. Are there other factors that are taken into consideration?

MR. LIPTON: Well, this is part of a private catalogue of the I.C.C. and I do not think it is possible for anyone on the outside to reproduce what a fair value of a pipeline would be without knowing all the factors and what particular weight the I.C.C. wished to give in combining those factors.

MR. PATTILLO: When you speak of a return of 8%, that is a return, a gross return or a net return on that determined value?

MR. LIPTON: The I.C.C. as the basis of its relationship between return and value uses what they call pipeline operating income, that is, operating revenues of the pipeline minus its operating expenses which then gives you net revenue from operations from which the pipeline is permitted to deduct pipeline taxes and what is left then is called pipeline operating income and this is the figure which is related to the fair value to determine

what the rate of return of the pipeline actually is.

MR. PATTILLO: That is the figure that you are entitled to make 8%?

MR. LIPTON: Yes, as against the normal conception of net income which a pipeline might show in its own balance sheet. They would add to that pipeline operating income the income from other sources, presumably subtracting all their fixed and contingent charges and then come up with a net income figure. They would also have considerable differences in the accounting practices which a pipeline undertakes for rate valuation purposes as against that which they might undertake for their own balance sheet. For instance, the rate of amortization which they may charge may deviate for tax purposes as against rate valuation purposes.

MR. PATTILLO: Have they a uniform method which all lines must follow for the purpose of determining whether they have or have not made the allowed 8%?

MR. LIPTON: Yes, the I.C.C. has a uniform schedule that all of the pipelines must conform to when they submit their operating statistics to the I.C.C.

MR. PATTILLO: Now, Mr. Lipton, would you just develop for a moment the principles that are applied in determining the tariff once you have determined the fair value and once you have determined

the rate and then you are faced with the problem of saying, "Well, to earn this rate we will permit certain tariffs". Now, are they uniform tariffs? In other words, if I am a shipper and my oil is going 500 miles am I paying the same price per mile, per 100 barrel mile as a shipper whose oil is only going 100 miles?

MR. LIPTON: Well, the rates, once they have been determined, become public tariffs and they are applicable to all shippers whether they should be owner shippers or others who want to utilize the facilities of a line so uniform rates would apply to anyone whose oil is being carried. The tariff schedules when they are published between alternative points may show significant differences in the actual tariff per barrel mile or per 100 barrel mile. Pipelines typically have higher barrel mile rates over the short haul than over the long haul.

MR. PATTILLO: In other words, they do apply the principle of telescoping rates?

MR. LIPTON: Well, I am not quite sure whether one would say they applied a principle of telescoping tariffs but if one looks at the tariff schedule as they are published it is a telescoping tariff schedule, the respective cost of the long over the short haul and many other considerations.

MR. PATTILLO: Now, what happens in the

United States if the calculations that have been made had been predicated on certain revenues and the revenues far exceed the calculation and as a result the rate of return is much more than was anticipated or is permitted, what happens then?

MR. LIPTON: I think at this point the economist gives way to the attorney and steps out of the picture.

MR. PATTILLO: You mean the attorney takes the difference?

MR. LIPTON: There have been instances in the past in which the I.C.C. has stepped in and has instituted proceedings against a large number of our crude oil pipelines requesting a reduction in their tariff rates which means that the I.C.C. charges on the basis of valuation that the tariffs are higher than are necessary to yield what seems to be a fair return on a fair value. There was a relatively broad gauge case that was instituted in 1942 and then held in abeyance because of problems that arose and the fact the pipelines were operating under substantially different conditions than they had previously. By the time the case reappeared on the I.C.C. agenda shortly after the war, by virtue of the substantially changed conditions in the crude oil lines, they had expanded and the crude oil lines had different rates and the I.C.C. withdrew its proceedings against the

crude oil lines and did require and obtain by consent decree withdrawals from one or two of these lines in their minimum throughput tenders.

MR. PATTILLO: Can you give us any idea -- you have been using this phrase "minimum throughput tenders": will you expand that a bit?

MR. LIPTON: In the published tariffs of the crude oil lines, they often stipulate the minimum quantity of oil which they will accept for throughput at the tariffs which they have published.

MR. PATTILLO: You mean so many barrels a day?

MR. LIPTON: Yes. This has to do, presumably, with the economics and efficiency of operation of the line. In the past the ICC has felt from time to time that some of these minimum throughput requirements may not have been based solely on the efficiency or functioning of the line, but may have been designed to service the owner-shippers and to discourage the use of the facility of the line by small, independent refiners who may have wanted to use it, and so they tried to, I think, stipulate that minimum throughput tenders shall be of such a reasonable nature that they conform to the operating requirements of the line and are not discriminatory.

MR. PATTILLO: Mr. Levy, you mentioned just before the adjournment a price of 2.1 to 2.6¢ per 100-barrel mile as normal transmission cost: would you please expand that a bit for me? Have you any figures to show what size of line you are talking about, what daily throughput -- can you give me any

other figures as to different sized lines and throughputs?

MR. LEVY: When we were talking about the very low figures, we were talking about pipelines of largest diameter. Some of them may not have been constructed yet. If you talk about low rates for existing pipelines on a very low basis, you would probably find that the figures for the biggest pipelines over long distances right now may be between 2.7, 2.8 to 3¢ per 100-barrel mile.

MR. PATTILLO: When you say existing pipelines, are you talking about 20, 24 or 30-inch line?

MR. LEVY: 30-inch line. For instance, there is one very big pipeline in the Middle East --the Tapline -- which transports 300,000 barrels a day from Saudi Arabia to the Eastern Mediterranean, and I don't have the figures for the cost of that line, which is privately held, but I would suggest it is within that ball park.

MR. PATTILLO: What happens if you are talking about throughputs in the neighbourhood of 100,000 or 150,000 a day -- say, through a 20-inch line?

MR. LEVY: The tariff would most likely be higher than the one I mentioned, and may well be between 3 and 4¢ per 100-barrel mile depending on a lot of factors related to the cost of investment at the time it was made, to the kind of crude oil

shipped, to the financing rates available at the time, and lots of other factors.

I would like to add one word of caution: it is perhaps not fair to generalize what I say now and compare pipelines in the past and then start to question as to why it is not applicable. You have to look at the individual situation; but, it appears on the basis of the present know-how or technical knowledge that if you build a very large diameter pipeline right now for large-scale transportation over long distances, it would appear that a rate of 2.6 or 2.7, and perhaps lower, cents per hundred barrel mile.

MR. PATTILLO: Provided the line was operating to capacity?

MR. LEVY: Oh yes; if it didn't, it would be very expensive.

MR. PATTILLO: Mr. Levy, I am going to turn now to a subject on which I hope you are going to help us much more than anybody else has up to now, and that is the matter of pricing of oil in the world markets today.

First of all, can you develop at all for me the theory of how the prices that prevail in North America come into being, and give us help about that as to whether they are based on a price in the Gulf, laid down in New York, or anything of that nature?

MR. LEVY: If you permit me, Mr. Pattillo, I would like to add one further comment in connection with our pipeline discussion. We are not pipeline consultants, and we do not hold ourselves out as such. We have given you our best judgment which is, however, not the judgment of people who have studied that position, detailed in a separate manner. I think we have tried to help you by giving you this kind of thing, but for any direct conclusions I would urge you to check those statements with a pipeline expert.

MR. PATTILLO: Thank you.

MR. LEVY: As far as pricing is concerned, at least there is no expert on pricing so I do not need to disclaim anything. As far as crude oil is concerned, in the United States we have the system of posted prices. It means in the use of crude oil the refiner posts a price at which he is willing to purchase crude oil from the various fields with which he is connected or with which he has a possibility of transportation. We have as posters of crude oil a large number of companies who are users of crude oil, and in many instances, of course, these very same companies are also producers of crude oil. You have Humble, Atlantic Refining -- you can go through the list of American oil companies and find the posted price indicating their willingness to buy, and these companies are basically, in most instances,

integrated operations.

MR. PATTILLO: So that where a large portion of what they may refine is their own oil, and sometimes they don't buy all they produce.

MR. LEVY: Definitely.

MR. PATTILLO: When that situation prevails, so far as they are concerned, posted price is just fictitious, isn't it?

MR. LEVY: I would not quite go along with you on that one. If you talk about posted prices, posted prices are not established like that. It would be nice if you were a refiner and owned a little oil field, and your refining capacity was much larger than your oil production, and you tend to post a low price, and I would bet you would not get the crude oil you would need; or, in the reverse situation, post a high price and then be swamped with crude. So, as far as the posting of crude oil is concerned by the producer, it is not something he can be arbitrary about. He cannot be arbitrary about it because he is faced with a large number of actual or potential suppliers, and he is faced at the same time with, or in a group of refiners who are also in the market for crude oil, and therefore his price has to bear relationships to this supply and demand situation.

MR. PATTILLO: Now, would you now explain, having explained about the posted price, and tell us what -- there is some yardstick by which all prices are determined in the United States, is there not? If you have a posted price in one field, say, in the Texas Gulf, then you add transportation cost to that to a certain point and does that govern pretty well all posted prices throughout the country?

MR. LEVY: Not in that sense. You have oil from all the various areas that we have in the United States, and you have posted price relationship between all these various oils which reflect supply and demand situations as they exist in the United States, however they may have been arrived at. They reflect the quality of the oil, they reflect the cost of transporting the oil to the point where it is used, they reflect the competitive relationships between the various crude oils and the possibility of switching from one outlet to another, which in some instances may be limited. Therefore, you are more at the mercy of the buyer, and then you have the possibility of switching connections, finding new outlets, and when you have this picture altogether, when it is all set down, you have a picture for pricing for crude oil which bears a relationship to quality, outlet possibility, costs for connecting between the producing field and the purchaser.

MR. PATTILLO: That is the situation as you

see it in the United States?

MR. LEVY: That is correct.

MR. PATTILLO: And am I correct in thinking, for instance, in Texas where you have pro rationing to market demand, that posted price is the actual price for every producer in the field?

MR. LEVY: There have been times where discounts, in times of surpluses, are given --

MR. PATTILLO: Under the table.

MR. LEVY: Under the table, because if they are given under the table they affect the posted price. Premiums are charged also under the table, and I remember the situation when I was working under the ECA we had a great deal of transactions with crude oil and the possibility of whether the United States should or should not finance them, and you have that situation during periods of surpluses, during periods of shortages. I may refer to a comment of an executive independent oil refiner who said in a recent report of Fortune that only fools pay posted prices. To quote him correctly, he said: "No independent would dream of paying posted prices".

MR. PATTILLO: Is there any relationship between the price of Venezuelan oil and the price of United States crude?

MR. LEVY: There is, sir. Let me explain it to you, perhaps, as follows: A large part of

Venezuelan crude oil moves into the United States market, and obviously, therefore, Venezuelan oil must be competitive with United States crude oil at the United States East Coast where both are being used. It need not charge less than United States crude oil at the East Coast, delivered to the East Coast, and it cannot charge more. Therefore you have this kind of basic situation which I will explain first and then show you a little bit of the deviations. We have that kind of basic situation; Venezuelan crude oil prices are more or less related to the price of United States crude oil delivered from the Gulf Coast to the East Coast minus the corresponding transportation from the United States East Coast to Venezuela and minus a United States tariff of 5 1/4¢ or 10 1/2¢, depending on the gravity of the crude. You would have that kind of pricing for crude oils of comparable quality. I would add, perhaps, that in order to make Venezuelan oil attractive in world markets, you may find that it is insufficient for them to be even a little bit below that mathematically calculated price. That depends on an individual evaluation, but basically this is the competitive supply element relationship determining, at least in broad outline, Venezuelan prices.

MR. PATTILLO: What is the situation of Venezuela today? Are all the wells there operating

to full capacity or do they have any cut-back introduction?

MR. LEVY: They have made a cut-back introduction since the end of the Suez crisis, partly because of the recession and its effect on the United States, and partly as a result of the import policy of the United States.

MR. PATTILLO: But they haven't attempted to overcome that cut-back, or perhaps they couldn't, by a reduction in price?

MR. LEVY: That has to be qualified, I would say. During these very last few months some of the new companies which we referred to before as new entries into Venezuela found oil; one of the companies in that period I think developed as much as 30,000 or 40,000 barrels a day, as much as it took them to find in the United States over the last 20 years. That oil needs a market. This is not information I have seen, but, according to trade reports, this oil has been offered at discounts below the posted price, and that might have been a basis for the comments in Fortune Magazine to which I referred before.

MR. PATTILLO: Now, you have given us some picture of the relationship between the Venezuelan price and the United States price. Perhaps before we go to the Middle East, let's take the situation in Canada. As I understand it,

today the Canadian price is based on the competitive price of United States crude at Sarnia; is that correct?

MR. LEVY: That is my understanding of the situation.

MR. PATTILLO: Now, let's move over to the Middle East. Is there any relationship between the prices charged f.o.b. the Middle East ports and the prices charged for United States crude laid down in the East Coast of the United States?

MR. LEVY: This has obviously some relationship, and I may perhaps later on explain the history of it a little bit more. I believe the relationship is less, may I say, mathematically, but let me give you some of the background. As a matter of fact, I was quite a bit in the problem of the Middle East crisis, because one day my boss in the government told me he wanted a good price, and the question came up of Middle East prices. At that time (it was around 1948) Middle East crude oil had basically taken over, if you want to put it that way, the supply of Europe; it had really not made headway in the United States or other Western Hamisphere countries. At that time the price of Middle East oil, say at the Persian Gulf, was equalized with the price of United States oil, and later Venezuelan crude oil at the United Kingdom, so that you could deliver either Venezuelan crude

or Middle East crude oil to the United Kingdom and have a similar delivered price. During the time I was in ECA and subsequently, the price in the Middle East was reduced, and it was reduced, I would say, perhaps -- and if I say it was a concept you would get into difficulties because people who quote the price never state the concept, but at least it had the effect that Middle East crude could be competitively laid down with Venezuelan crude oil at the East Coast. Subsequently thereto United States prices and Venezuelan prices moved in various directions, I must say mostly up, and Middle East prices moved -- there were changes in the Middle East prices, but right now, particularly if you look at the low tanker rates that are obtainable, not only on spot but on long-term, Middle East could be laid into the East Coast itself at an advantage compared to Venezuelan oil.

MR. PATTILLO: And with advantages compared to United States oil too.

MR. LEVY: It is not even in the running.

MR. PATTILLO: Therefore the situation today is that Venezuelan oil moved to Europe or the United Kingdom is no longer competitive with Middle East oil moved to that place.

MR. LEVY: Let me just a little bit qualify that. As far as heavy Venezuelan crudes are concerned, their pricing is more or less related to

and determined by fuel oil prices, because the bulk of the refined product outlet from such crude oil consists of fuel oil, and without going into more details, this kind of crude oil, because of the price relationships with regard to finished products, is probably not too far out of line with Middle East crude, of which no large quantities of heavy crude had been developed in the past. You have, of course, movements of crude which are at a price which you cannot judge exclusively on a price basis because they reflect quality considerations, they reflect the currency situation, they reflect the security of the oil countries. I believe no country would like to be, if it can, 100% dependent on Middle East sources. You have to look at that package, and therefore exceptions are explained usually along these lines, but they are not the rule; the major supply to Europe comes from the cheapest source, which is the Middle East.

MR. PATTILLO: Which would be the more correct statement: Middle East crude prices have kept world prices down, or Texas prices have kept world prices up?

MR. LEVY: I am a little bit worried about whom I shall call chicken and whom I shall call egg; but there has obviously been an effect by the two on each other. Let me go at it this way. If you can assume there was no Middle East oil, we would

obviously have had for many years larger production to the extent that it was feasible in the Western Hemisphere countries, and I would say that all prices would be considerably higher. So the mere fact that there was Middle East oil has had an effect on Western Hemisphere prices. At the same time, if there had been no Western Hemisphere oil, I would say Middle East oil would, without too much trouble, supply for a time most of the requirements of the free world. Obviously at that level of production, whether prices would have been lower or higher, I am not able to say, but I would like to make one point. If you look at the oil pricing from the point of view of the manufacturer, you have a certain cross-pattern, you add a mark-up and then you come up with a market price, I believe you could have a feasible practicable proposition over a period of time. I think you have an industry here where in some areas there are fantastic reserves, and in some other areas you have to struggle very hard, and in other areas you have an infant industry but a great deal of money needed just to keep a little bit further ahead such as in Canada. If you have this picture and if you let nature take its course, I think you would have to turn over the world oil industry to Kuwait. So price competition is not the only thing you can really consider.

MR. PATTILLO: Perhaps you would like

at this point to express your views as to the effect of pro rationing to market on prices.

MR. LEVY: The effect of pro rationing to market on prices today, as we have had in the United States, has obviously, among other factors too, resulted in some stability in prices. That means that you probably avoided during periods of surpluses each one individual producer, trying to get his maximum production sold, engaging in a price war, and during periods of shortages you would have had a situation where each individual producer would have asked for whatever the market would bear at that time, and the sky would have been the limit. You certainly have stabilizing influences in regard to pro rationing to market demand. The price is made still as a result of a complex accumulation of factors, including supply and demand, supply and demand controlled by conservation, which is controlled in the United States partly, if you want to put it that way, by an import policy. But pro rationing as such does not set exclusively a price. It has stabilizing effects, it is a factor.

MR. PATTILLO: Would it be fair to say that what it does is level out the hills and valleys to the normal swings?

MR. LEVY: It definitely has an effect, and I would say that over the long pull everybody has been gaining from it, in the situation in which we find ourselves, including, by the way, particularly

the smaller independent producer and including in particular, I would say, his ability to get money from banks.

MR. PATTILLO: Does pro rationing as operated in the United States and in Canada create a lot of marginal inefficiency as well as producing that which otherwise, if the normal laws of economics were applied, would be shut up?

MR. LEVY: I would say it starts with conservation. Of course, under conservation, because of conservation, you have a certain allowable. Under pro rationing you are assured that this man has an outlet, and obviously he could not sell if the price would not at least pay him his out-of-pocket expenses. To that extent, therefore, you could say that the marginal producer has been kept alive by conservation, plus pro rationing. But you could, if you wanted to, in a situation like that also say that it is impossible to have conservation without pro rationing, because if you could assume that without pro rationing the market for the producer would disappear, and if you could further assume that you want to have this production kept flowing because of conservation, then I don't know whether you would call it conservation or pro rationing which keeps him alive.

MR. PATTILLO: I am not clear about one thing about pro rationing. When you talk about pro

rationing to market demand, if you have it in force all over the world in oil-producing countries, am I correct in thinking, then, you would also have the delicate balance between supply and demand, provided the buyers were adequately judging the markets for products made from the crude, that you would then be able to keep a delicate balance in being at all times?

MR. LEVY: You keep a balance, but whether it is delicate, I am inclined to doubt.

MR. LEVY: You would keep a balance but whether it would be delicate ---

MR. PATTILLO: But when you have the two big producing countries, the Middle East and Venezuela, not on pro rationing then is not the result that with their quantities coming on the world market that places such as Alberta and Texas which have pro rationing find their markets shrinking?

MR. LEVY: To the extent that, first of all, the oil enters the international market. That might well be the case because after all I would assume that, say, the United States producer operating under a pro rationing system would not have enough for export at that time and the Middle East producer would have that quantity, there is a possibility of him reducing the price which may be harder to do for United States producers. You have that situation perhaps right now where you have shading of prices and ample supplies from the Middle East and they are fighting it out, kind of fighting it out.

MR. PATTILLO: And that is really what has led to the agitation on the part of the independent producer in the United States today to exclude from the United States market this foreign crude.

MR. LEVY: What has happened there is,

foreign crude as compared with the United States crude at present prices, at least, was so attractive to a large number of refiners on our coast and inland that so many new United States oil companies were in the process or had already acquired new production that our production level in the United States would have to be cut or affected even more than it has been affected if there had been an unlimited entry of foreign crude into the United States market. This is to a considerable extent the competitive strength of foreign crude plus the United States crude and the effects of United States production and if you want conservation ultimately, and certainly security, this is the situation which has agitated conditions.

MR. PATTILLO: You had no quota situation in the United States today and you had the international companies operating in Texas under pro rationing without having a substantial supply in that market and operating in Venezuela and the Middle East; without pro rationing they could sit on the pro rationing situation in Texas and use the price that was established there as an umbrella for bringing in all their own crude from Venezuela and the Middle East at a profit.

MR. LEVY: I do not think that situation -- No. 1, the price in Texas, would stay where

it is. No. 2, I do not think the Texans would stay where they are.

MR. PATTILLO: Well, they have not, they have been down to Washington in large numbers, I understand.

MR. LEVY: And, therefore, let me add one thing: when you have these large international oil companies they cannot afford really to act more than -- they cannot afford to act for any period of time irresponsibly, they have to balance the situation as best they can and it is very difficult under certain situations. I would, therefore, also add, you must not forget that at least as far as the United States is concerned the home base of these companies is in the United States and I do not believe that we would face as desperate a situation as you develop on a theoretical basis. But, in addition to that, as I said, a lot of new crude has come and even more will come into the market. These stresses may be less relevant in overdoing a good thing or in handling affairs irresponsibly or in being responsive to the national interest where the home places are and we would operate in a foreign country. I think that is a very relevant yardstick for these corporations and sometimes the situation may get out of hand but that has not happened to date.

MR. PATTILLO: So you say they have to

balance their desire to make substantial profits as against killing the goose that laid the golden egg.

MR. LEVY: Yes, and make no profits after.

MR. PATTILLO: And in doing that they also have to have regard to perhaps over-expanding their operations in a country like Venezuela and then when they are forced to cut back being confronted with governments saying, "You have to keep your volume up to what it was before"?

MR. LEVY: You could not be more right, Mr. Pattillo, because after all these governments in Venezuela and the Middle East -- the oil industry is the biggest industry in the country from which they get 90 per cent of their budgetary income in many instances, and 120 per cent of the foreign exchange comes from the oil industry and there are pressures which are not only economic pressures but also political pressures.

MR. PATTILLO: Mr. Frawley will tell you about them in Alberta.

Now, what I am still continuing on with, trying to get this price picture clear, does what I might call the Mid-continent price, the locked-in areas where they are not affected by competition from foreign crude -- are those prices related in any way to the laid-down price of the United States crude at the B. C. coast?

MR. LEVY: Obviously in the United States itself, we discussed before a network of pipe lines as to shipping crude or products. You have resulting out of specific prices situations, locational advantages, and after a length of time they usually disappear because the next fellow wants to take advantage too. Also, in a mature and rather transport-wise, well-balanced economy like ours, you would expect that somehow the price level in the various areas, even those that may not be directly connected or directly competing with the same outfit, that some of the price levels were usually balanced out.

MR. PATTILLO: So, in other words, there would be a relationship in the price of Canadian crude laid down at Sarnia with the United States crude laid down on the East Coast?

MR. LEVY: No, your crude is related to Illinois crude. It is related to Oklahoma and Texas crudes because they all move to similar refining areas by pipelines. There you have a variety of relationships but pricewise I am somewhat inclined to believe you have not suffered really.

MR. PATTILLO: And then, would there be a relationship to the laid-down price of foreign crude in Montreal with the laid-down price of Canadian crude in Sarnia?

MR. LEVY: Now obviously Canadian crude has not reached Montreal at this time, I understand.

MR. PATTILLO: No, not yet, unless it happened today.

MR. LEVY: Now, so far as the United States east coast is concerned there is kind of a relationship between the United States crude reaching there and Venezuelan crude, and some potential, even Middle East crude. Therefore, United States crude reflects to a considerable extent -- United States crude price affects a variety of factors involving crude prices among others.

If you want to you can say -- I am not sure this is a helpful comparison for the kind of questioning I would like to follow after this but I will see.

MR. PATTILLO: Well, I am going to break off at this stage. I will ask one more question on the subject of price and we will go back to it later on when we come to the problem that I want to discuss with you. Going to the Montreal market with Canadian crude: you probably have heard of the St. Lawrence Seaway and you know that it will be finished approximately this time next year. Now, have you given any thought to what the effect of that might be on the potential markets for Canadian crude? In other words, do you think that we may be flooded in this country with Middle East and

Venezuelan crude coming up the St. Lawrence Seaway as far as the Head of the Lakes at Fort William and being able to do it below the price of Canadian crude coming out of Alberta?

MR. LEVY: Let me perhaps answer it this way: as far as I know the St. Lawrence Seaway will not permit ships over middle-size capacity to go through the various locks and reach the various markets you mention. After all, the Middle East producer or the Venezuelan producer would like to get into your market and I think he could get into Toronto, for instance; I do not think it would be too difficult for him and I think he could beat the hell out of you, but he would build a pipe line to do so. I do not think he would use any other means.

MR. PATTILLO: You think he would build a pipe line from Montreal into the Toronto market, then he could do that and bring his big tankers ---

MR. LEVY: Yes, sir, he could also do the same thing to you on the West Coast.

MR. PATTILLO: He could do the same thing on the West Coast?

MR. LEVY: Yes, but not in Alberta.

MR. PATTILLO: Are you sure of that? Now, let us go, if I may, to present and potential markets for Canadian crude. We have had a lot of

evidence given here that the market for Canadian crude -- I am not necessarily giving them in order of preference, but starting from the West and going to the East, C nadian West Coast, Puget Sound area, offshore shipments, the San Francisco Bay area, possibly Los Angeles, the Middle West both Canadian and in the United States immediately south of the border, the Sarnia area in Canada and in proximity to that the Detroit-Toledo area in the States. Then the Toronto area and the Montreal market.

Now, those, as I said, are the possible markets for Canadian crude and I would like you to discuss this matter and give us your views. I might perhaps start off the discussion by saying this, if you were a producer of crude oil in the Province of Alberta, what would you consider to be your most economical market, the best economical market for your crude?

MR. LEVY: Let me make a few general comments and afterwards I may turn it over to Mr. Lipton. The most economical market is, of course, after getting the cost of production and all those other factors which do not enter, is the function and the size of the outlet and the price that is obtained. Those, I believe, are the two large factors, how much can you sell and at what price? If you had stayed in the Prairie Provinces you could have sold very little but the price

would have been high so the question is not only one of price, it is not only the size of the market. You have to look at both. At the moment you want me to look at it all forgetting all the other problems such as foreign oil, United States import policy, and what have you.

MR. PATTILLO: I want to first get the picture as if Canadian crude was the only possible source and then we will come back to the competitive position and find what your views are.

MR. LEVY: You would, of course, have tried to cover your nearby areas first and spread out from there, and the first logical expansion would have been towards our own West Coast because that area is deficit area and provided your price is competitive -- it would have to be competitive, there would be no commercial preference possibilities and no import restrictions of market would have given you a deal, but the way it appears now, this plus the West Coast of Canada would obviously not have been all that you need. You would have had to spread further. You have, in fact, moved east and west and you have covered a considerable part of Eastern Canada,or the eastern part of Canada, and you have also entered the United States market in our Middle West. That expansion would have been second choice but obviously not second choice in terms of

being less ad-vantageous but it would have to come if you had developed sufficient production for the immediate nearby areas and saturated it to the extent that you could expect saturation with this Canadian oil. Once you reach Sarnia the die was cast with regard to the Canadian price at that point, and further eastward you kind of had to be competitive with United States crude oil to the extent that it could potentially enter your market.

Now, the question arises -- let me just pose it on an overall basis and we can come back to the details: once you reach Sarnia and establish a certain price for your oil, which from the West Coast point of view might have been lower than it would have been if you could have successfully marketed it in the West Coast, but once you are there the question of further expansion of markets then, to the extent that it does not result in further price reductions,is therefore obviously of economic advantage to you because you expand your sales and do not cut your price. You obviously moved into Toronto without further price reduction and the question arises, obviously this was advantageous because you did not reduce your price and you expanded your market area. Obviously if you could enter the Montreal market no question would arise as to whether it was advantageous or not advantageous on this limited level of your question.

MR. PATTILLO: Yes?

MR. LEVY: I don't know whether you want a detailed review of the various ifs and buts.

MR. PATTILLO: I think this would be a good place to break off this serial and resume at two o'clock.

THE CHAIRMAN: We will adjourn until two o'clock in this room, gentlemen.

---Whereupon the Commission adjourned, to resume at 2.00 p.m.

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---On resuming at 2 p.m.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearings. Mr. Pattillo?

MR. PATTILLO: Thank you, Mr. Chairman.

Mr. Levy, just before the noon recess I had come to the subject of the present and potential markets for Canadian crude, and I think that we had covered what seemed to be in outline the possible potential markets, and you had something to say about the matter this morning. Now, I would turn, if I might, to each of these markets in particular for a few moments, but before going to that, what do you consider is the responsibility, if any, of an integrated company that comes into Canada and carries on only producing operations in Canada, as to putting forth any effort to find some market for the crude which it develops in Canada?

MR. LEVY: I gather you are asking me about an integrated company abroad which has a producing affiliate in Canada?

MR. PATTILLO: Yes.

MR. LEVY: First of all, I would, of course, expect the producing affiliate to behave like a good Canadian citizen, and therefore do everything that Canada can rightfully expect from its citizens in the conduct of their business. That involves, as far as their production effort is concerned, of course, careful and considerate carrying out of the

laws of the country, and it involves, of course, also behaviour which is as responsive to government desires and needs as its Canadian compatriots would carry it out.

What you then have in mind is, what should it do to help Canada in its export operations? Because this is the second part.

MR. PATTILLO: That is right.

MR. LEVY: It should in general, of course, behave like any other Canadian company and do its utmost to make Canadian oil an acceptable and successful export operation -- and export article. Whether you then plan to move in your consideration back to the home office of the company and expect the affiliate to tell the home office how to handle its affairs world-wide, is a very different question, and there you come up against the problem that one of the children cannot tell the parents what it should do with all its other children. The home office problem is slightly different than that for its affiliate in any particular country. The home office has to look at lots of things: it is subject to a lot of legitimate normal commercial considerations in its activities which are not exclusively limited to the consideration of any one particular affiliate. If the home office would ever limit its concern and conduct to the interest of only one of its affiliates, I believe there would not be

very much longer an effective home office in existence. They may as well transfer to Canada.

What does this all mean? It proves in the first instance that out of the operation of a Canadian company owned by a foreign parent company, Canada as such does not in any respect, I would say, fare worse than if a Canadian company operates, because by definition, and even if there were nothing else but self interest, they have to behave, and they usually have to behave a little bit better because the public eye rests on them.

Secondly, as far as benefits are concerned, let me perhaps put that on the record too: I sincerely believe -- and you will forigve me because I am, of course, prejudiced -- that out of this relationship of a parent company to its affiliate in the oil industry a great deal of benefits have flown in terms of technical know-how, capital availability, and there is an amount of impetus given to operations which sometimes a foreigner can give a little bit easier than somebody who has been in a certain surrounding all his life. So, I think from that point of view it is a great gain to Canada.

It has further an added advantage: it can at least contact that organization which can provide and does provide some markets -- some markets which without Canadian affiliation would probably not be available, because when we come really down

to it Canadian oil has only two markets: Canada and the United States. It is not competitive in world markets, and it is unlikely to be competitive in world markets. That does not mean you won't get crises -- people who won't come and get your oil and love it and even pay for it, but, basically, Canada has only the United States and Canada to look forward to for markets.

As far as the United States is concerned, again let us face it, Canada, as far as the U.S. is concerned, is foreign oil. For any of the companies in the United States which import Canadian oil, the decision is basically one, "Should we take Canadian oil at a price which is even competitive at a pro forma price or other foreign oil, or should we concentrate our imports of foreign oil on those areas where we may have economic advantages resulting from such imports?" These economic advantages resulting from such imports could accrue as a result of ownership of the oil. The parent company which owns a foreign producing company would, of course,feel quite attached to that foreign oil; and, profit-wise, to use foreign owned oil as compared with purchasing prorated oil has advantages, because the total crude oil probably would accrue to the parent company. Secondly, it is not a secret that it is possible to obtain foreign on a long-term basis at very favourable prices even if you don't own it. Again, you

can't do that with Canadian oil. So, if you have a cold-blooded American importer who has no relationship and no interest in Canada, he is bound to figure his dollars and cents, and therefore the decision will be that there is no outlet for Canadian oil except in very peculiar and special considerations as in one or two areas.

When you come back to the affiliation of some of your companies, I believe, taken in all, on a very broad basis, they have their own problems, and some of them I would not like to face myself, but on a global basis they have added strikes, and as far as the position in Canada is concerned, it is your national policies which will govern, and it is you who will decide what companies might or might not do in the Canadian national interest. So, I don't believe any private action, as such, would for any length of time successfully run counter to Canadian national interests.

That was a long answer to a reasonably short question.

MR. PATTILLO: It is not quite as long as I got once: I had a whole book put in in answer to a question once.

What I had in mind was this -- and I will direct your attention right to it: in the Puget Sound area, which as I understood you to say this morning was, from the geographical point of view,

the most favourable for Canadian crude, there are refineries there: one is a subsidiary of Mobil, and another one is Shell, and the Texas Company is building one which will come on stream sometime this year. Now, at the present time, according to the evidence that we have been given, Canadian crude is definitely competitive laid down in the Puget Sound area with every type of crude laid down in that area, with the possible exception of Indonesian crude: would you agree with that?

MR. LEVY: I would agree, as to the general competitive character of Canadian crude.

MR. PATTILLO: And it has substantially less laid down cost than Californian crude?

MR. LEVY: That is correct.

MR. PATTILLO: With those facts we find that none of these companies, all of whom have operations in Alberta, are taking all of their requirements from Canada, and we find that Shell's acquisition of Canadian crude has been down around 10,000 barrels a day, which they propose to increase by another 10,000, so they tell us, in another month or so, and that this new Texas refinery is going to have a capacity of 40,000 barrels a day, and they anticipate that they will take Canadian crude up to in the neighbourhood of 8,000 barrels a day. We yet haven't heard from Mobil, so that we haven't fotten the full picture from them.

However, would you explain why, when the quotas of foreign oil into that region of the United States are not being met today, and Canadian crude is priced as we suggested, that there isn't being a greater sale of it, in your opinion?

MR. LEVY: I would like to reply in this way: first of all, there is probably a temporary situation of a surplus of local Californian crude which creates a particular problem with regard to imports as reflected in the much lower actual imports as compared to the quota. In California there are often long-term arrangements for the purchase of crude with the various refineries and with local Californian crude in contrast to the situation in Texas, and that may be one of the reasons. I don't think this is the whole reason, and I don't think one should accept that as the whole reason. I think we come up against what we have called in our report The Problem of Commercial Preference. I know some don't like it, but I think one has to face it, and what that means is that the parent company of an international oil industry, which has access and owns a variety of crude oil sources, must, in its import policy into the United States, which is now limited by quota, take account of a large number of sometimes conflicting and not always -- what shall I say -- particularly easy-to reconcile interests. First of all, these companies

have concessions in other areas because they are pressing for continued production the same as here, and where, perhaps, governments of these areas are perhaps not so easy to deal with under certain circumstances in terms of normal western concepts.

Secondly, these reserves are sometimes located in areas which are not as safe and as secure, and there are large, very large reserves in those areas, and there is a natural desire of the owner of such reserves to make use of them at this time. Perhaps this is the most important reason, the fact that these companies, of course, are subject to profit motivation in addition to other considerations and from their point of view, I am sure, absolutely rightly. A barrel of Canadian crude which they produce means 80 per cent or 90 per cent of the profit goes to the competitors or their other producing companies, and 10 per cent reflects their own profit, whereas if they bring in their own oil they get it all and the rest goes to the affiliates.

I would say that under these circumstances, because you have a market at all in this particular situation is probably due to the international affiliation of these companies, and if you had no profit motivation governing the trade you would have greater problems than you have.

It does not apply to all of the sales because some of the sales go to areas where there are no alternative sources at this time.

MR. PATTILLO: We are talking about the Puget Sound area. You are saying that because of the fact that Alberta has pro rationing,

which it put in, according to the evidence, at the request of the international companies, the international companies preferred to bring in their wholly-owned crude because the profit they made was entirely theirs, rather than ship pro rationed crude where they are sharing the profits with their competitors, but they have got to throw the poor dog a bone to keep him nice so they give him some business.

Now, is that it?

MR. LEVY: Not quite. Pro rationing is one of the factors beyond doubt, but we talked this morning about replacement cost. The reserve position in your country is such that you cannot -- let us assume they could draw on their own crude without the effects which I believe would be caused by it, they couldn't draw for any length of time on this crude without spending a great deal of money and replacing it immediately in order to be able to continue.

Now, draw on 40 billion barrels of reserve in the Middle East and you don't notice the difference, but draw a billion barrels of oil from Canada and you know what expenditure is in front of you to replace it. So you come up against profit motivation and a natural reserve which is exceedingly rich and the natural desire of corporations to handle their company on an overall basis

including profit, and the bone, as you say, to make available to the Alberta producer is a little bit of a steak as far as they are concerned because there is plenty if you figure it out.

What I try to do is to try to set the framework in which a company with international operations finds itself.

MR. PATTILLO: So you would say, looking at this thing from a realistic point of view, no matter what our competitors' position may be, as long as these substantial low replacement costs crudes are available, Canada cannot expect in the Puget Sound area any more than a segment of that potential market?

MR. LEVY: I don't want to hedge, but let me just add to that that other considerations enter into it before I give an yes or no answer. I would add to that that as long as we have in the United States import quotas which limit the total amount of oil, I would say that that makes the importation a very valuable right which you do not use for the oil which costs you more rather than for the oil which costs you less.

Secondly, our country as it is right now in a conservation position and becoming a very, very large importer, if our country in the United States becomes a very, very large importer I could easily imagine as a matter of course a substantial

amount of Canadian oil would also find its way there in spite of other factors; and certainly I would say that as long as Western Hemisphere security is not a governing yardstick of our policy.

With these qualifications in mind, I would say yes, but the qualifications have to be included.

MR. PATTILLO: Now, having put these qualifications in -- and I presume the same qualifications would apply to what I call the Middle West part of the United States and the Detroit and Toledo areas, too.

MR. LEVY: In degrees, yes.

MR. PATTILLO: Would you agree that, if those qualifications were not there, from the standpoint of the Alberta producer looking at what is the most desirable markets for him from the standpoint of his cutback, he would consider Puget Sound, the middle states, the Detroit and Toledo area preferable to the Montreal market?

MR. LEVY: I would definitely agree with that, and if you want an explanation on that, Mr. Lipton will ---

MR. PATTILLO: I will expand that in a few minutes; I just want to follow this train of thought I have in mind.

If you are going to operate a pipe line

to Montreal, would you agree that the Alberta producer would have to commit a large segment of his reserve to that line during the next thirty years?

MR. LEVY: He would have to commit a large part of his potential outlet to that line or the line should not be built.

MR. PATTILLO: Now, if you are producing, looking at these qualifications you have just given us, and weighing them against the wisdom of going to Montreal now and committing a large segment of your production, which would you think would be the sounder business decision to make: go to Montreal and commit yourselves to a less attractive price for a long period,or gamble that these qualifications which you have been speaking about won't survive for very long and that the United States markets would become available for all of the production that you might reasonably hope for?

MR. LEVY: No. I think I would break this problem into two parts, and I will deal with the governmental part first.

Under present conditions, and I would say at least for a few years ahead, I would say that Canadian oil would be able to enter the United States markets on a large, really improved, scale if, in the first instance, there would be no import quotas against the Canadian oil. But I would say

that wouldn't be good enough, and there would have to be added to that a discrimination in favour of Canadian oil. What I mean by that is that Canadian oil should be treated in the same manner as United States oil and that import quotas into the United States should be determined only from other sources after Canadian production is taken care of.

I would also like to say that means that from a United States point of view our import quotas would have to be handled in such a manner that we could also take care of Venezuelan oil because the security and defence argument which applies to Canada would, of course, from the Western Hemisphere point of view equally apply to Venezuela and whose supplies would be so badly needed in an emergency. Therefore the question resolves, in the short interim term, to, is it possible for Canada, and I would say from a United States point of view, to include other Western Hemisphere countries, to establish this Western Hemisphere concept of oil security and oil flow.

MR. PATTILLO: In the interests of peace in the world, the problem existing between the Iron Curtain countries today and the Western Hemisphere countries,the position daren't be taken which would reflect against the Middle East production?

MR. LEVY: You have certainly raised one of the other difficult problems there, but that hasn't been decided, of course. But what has been envisaged is not so much complete exclusion of the Middle East but a kind of what I would say larger share which I am confident will come about in U.S. importations from other Western Hemisphere sources.

The Middle East has quite a large market in the Eastern Hemisphere, and while our market has been stagnant, it has been still expanding. But I am not a politician and I cannot size up the political repercussions.

From an oil point of view and the security point of view, of course, some Western Hemisphere approach to this problem makes good sense if it is negotiable in a reasonably short time.

MR. PATTILLO: When you say a reasonably short time, I am still thinking of this Alberta producer who has the problem before him: "Am I going to support the Montreal line and production or am I going to say that I will wait because this present situation is going to clear up and I am going to get a reasonable share of this market in the Puget Sound and other areas?" Now, do you think that the Alberta producer,

studying that problem, would be very realistic if he said it will take three years to build the pipe line. In three years this problem is going to be solved anyway, and I am going to have a more attractive market in the Puget Sound and in the Middle West?

MR. LEVY: I do not believe that any problem will be solved in three years, I mean in general. Further let me say that if I were an Alberta producer I would like to be damned sure that it cannot be. There are ways to find out and find out not within a year or two, but find out practically immediately. It is a matter -- a reasonable question to ask, because after all what will happen in Montreal if Canadian oil moves there? Excluding the other Western Hemisphere oil immediately adds to the problem of the Western Hemisphere from a security point of view because it will create problems in other Western Hemisphere oil areas which are important to the free world, so your judgment cannot be unconcerned with this problem.

MR. PATTILLO: In other words, if we move Canadian oil to Montreal and give it protection it would cause dissatisfaction in Venezuela, and the first thing the United States would be confronted with is the problem of where they are going to put this over-production from V nezuela.

MR. LEVY: I think it is a very likely course of events. What you are doing here is not something which you can look at as an isolated case but it has repercussions and therefore requires, in my judgment, urgent and considered attention.

Let me add something else. Of course we assume at the moment that Montreal could be reached only at a real sacrifice to the producers. That is part of the basic assumption?

MR. PATTILLO: Yes, we will come to that a little later but I agree that is the assumption we have been making up to now. I think you will agree with me, would you not, that when some sort of embargo or quota is put on foreign oil coming into Montreal, if the foreign producer wanted to hold that market in Montreal we could not possibly compete with them, with Canadian crude, without a sacrifice by the Canadian producer.

MR. LEVY: I would say if the foreign producer is determined to hold the market, if he is willing to make, even, if necessary, conditions which are more favourable than they are today which he could afford, under certain situations I am sure what you said is correct.

MR. PATTILLO: Now, in testing these commercial interests in all of the United States of America I suppose one has to have regard for the very things that the refiners in Montreal were putting up here as reasons for not going to Montreal, namely the action would cause quick obsolescence of many facilities in which they had a financial interest which were presently, under the way of living, yielding a profit.

MR. LEVY: Definitely. I mean, you cannot expect anybody to put his facilities into the junk heap voluntarily.

MR. PATTILLO: Now, we had some evidence here about the St.Paul-Minneapolis market, and apparently that market is absorbing a good deal of crude coming from Saskatchewan which is a special type and for which the refinery has been especially built. What in your opinion is the prospect of first being able to hold that market to the extent that we have and, secondly, there being any expansion in it?

MR. LEVY: As far as holding it, in their position I would feel quite confident because you have ownership-interest relationship all along the line expanding it. I would say it is probably held in position because this is an area where Canadian crude in relation to others has an advantage.

MR. PATTILLO: Now, I am looking at the Detroit-Toledo market. In the Detroit area Socony has a very large refinery and Socony is in Alberta and now it is apparent there is only sixty miles of a gap from the present Interprovincial pipe line to Detroit, which is negligible, and it has been suggested here in evidence that Canadian crude can be put into Detroit. Under the circumstances should Canada and the Province of Alberta be reasonably entitled to expect that Socony would

take some Canadian crude into that refinery? Would they be asking too much to ask them to take some portion?

MR. LEVY: I believe there is a difer-ence between what one could or should ask and what one could reasonably expect.

MR. PATTILLO: I quite agree. Now, you just tell me what we could, what we should and what we can reasonably expect.

MR. LEVY: As far as asking is con-cerned, I would first like to know who asked whom.

MR. PATTILLO: Well, now, that is a very interesting problem and I have been trying to find out something about that. What do you say is the function of a pipe line company, should it merely act as a transportation vehicle or should it be doing anything about looking for markets to see that it can keep its facilities going at full capacity?

MR. LEVY: I would say every business is interested to operate as profitably as it pos-sibly can. The pipe line company, the way it is set up here, is an independent partly publicly-owned facility and it would therefore, I assume, act on a normal profit motivation and continue to think and figure out what kind of revenues it could develop.

MR. PATTILLO: So if you were the chief

executive officer of the pipe line company in Canada you would anticipate that your organization was doing something to try and increase markets for the oil going through your line unless you were operating at full capacity, is that right?

MR. LEVY: Even operating at full capacity I would be concerned because I could operate at fuller capacity.

MR. PATTILLO: Now, if you were a producer out here in Alberta and you had no refining operations of your own would you consider that there was any duty on you to go husting around and seeing if you could interest some refinery in taking Canadian crude or would you say, "My duty is done when I go to the Alberta Conservation Board once a month and find out the nominations"?

MR. LEVY: Well, that is a little bit more difficult because after all the producer has no real relationship to his customer. He does not even know who his customer is, so you have a different problem from that of a company which owns a facility which it wants to expand and make more profitable or from a company which owns the production and tries to sell its own oil. It is a complicated problem.

You have a variety, a large number of smaller producers, who just would not be set up to enter into this kind of arrangement and business.

MR. PATTILLO: I know what you feel. You feel everybody must first look after himself before he goes crying to the government to do something for him, and I could not agree with you more.

MR. LEVY: Institutionally and organizationally the set-up may be such that it is theoretically right to expect him to do so but practically, in fact, impossible.

MR. PATTILLO: Well, do you think he is right to sit by and say, "Well, Jones should do it,' and everybody keeps waiting for Jones to do it and Jones never does it?

MR. LEVY: I believe the system is such that it does not lend itself to the producer going out and trying to -- he has nothing to sell except a share of Canadian oil but a refiner may not wish to buy his oil. It may be Saskatchewan oil.

MR. PATTILLO: But you would not expect the Alberta Government to be out selling the stuff?

MR. LEVY: No, definitely not, but the way it developed, of course, is that I believe two of the companies with foreign affiliates have done a great deal to develop a market for this oil.

MR. PATTILLO: Apparently Imperial and B-A have been the leaders in the whole operation; without them there would not have been very much done.

MR. LEVY: Obviously these operations should be shared by more people, I agree with you; whether it would be more successful I do not know because of the other factors we mentioned.

MR. PATTILLO: How are you going to get these other people in? Should the Alberta Government summon them in and say, "Boys, we do not like the way you are operating and we would like you to come back next week and tell us what the problems are"?

MR. LEVY: You see, basically the problem is the same as the Texas producer. He cannot go out, he is dependent on the nominations and the pipe line which furnishes the transport for his area, which is a particular place where it is needed. What I am trying to say is, I am a little bit wondering how to handle this problem.

MR. PATTILLO: Perhaps it would be a good idea to do away with pro-rationing. Then everybody would be on the same hump, would they not?

MR. LEVY: We would have a continuous decline in prices.

MR. PATTILLO: That might not be a bad idea.

MR. LEVY: It would be over the long pull until the present surpluses worked down. It would probably reduce the price to the refiner but afterwards it would come up.

You see also it would involve tremendous other problems than of the various producers going out and trying to interest, say, an import refinery and buy crude from them. How could that be done? In practice, I just don't know.

MR. PATTILLO: We might call up Mr. White or Mr. Twait and get them to explain it to us. Well, what about this petroleum association? Should an association or some group representing all the producers be doing anything about seeking markets? Does that happen anywhere else?

MR. LEVY: No.

MR. PATTILLO: It doesn't.

MR. LEVY: I believe there might be severe legal problems also coming out. Let me ask you, when you talk about looking for markets, what you have in mind basically is the United States market?

MR. PATTILLO: That is right.

MR. LEVY: Because the Montreal market, I gather, is actively looked after by some people.

MR. PATTILLO: At the moment.

MR. LEVY: At the moment, so what you have in mind is to get further into the United States market. I am sure that your foreign affiliates have been alerted, because I am sure that what has been happening in Canadian oil has been brought to their attention, and I am sure quite frequently. If it has not resulted in business, I believe it is because

of the reasons which I mentioned before.

MR. PATTILLO: So you think when you are looking at the present situation in the States that the conditions prevailing now, which you think are going to prevail for a number of years, that all of these companies weighing their commercial interests are probably not voluntarily going to take increased quantities of Canadian crude?

MR. LEVY: I would say there would be some increases, but it will not be a dramatic one. You know, what strikes me if the companies had planned to take a great deal of Canadian crude, this would have been the place where they would have announced it.

MR. PATTILLO: You have not forgotten the 8,000 barrels?

THE CHAIRMAN: In all fairness Mr. Levy, one or two have done so.

MR. LEVY: I appreciate that, but I mean if the present level is not satisfactory, and I have not said it is not, if you could look forward within a year or two to a much larger increase in your sales to these companies, if I had advised these companies I would say now is the time to let it be known.

MR. PATTILLO: That is where the good man you were talking about should come to the aid of the party. Now we have evidence about the Ontario

market, and that we could anticipate probably within a period of a year that it will be possible to increase the amount of Canadian crude going into the Ontario market about 80,000 barrels, and that probably that will further be increased in a further period of time to something over 100,000 barrels.

Now one of the things that they think is going to make this possible is due to the increased refining capacity developing in the Toronto area. It will be possible to halt the flow of the refined products from Montreal to Toronto, and reverse that flow back to the junction where the line goes to Ottawa. I would gather from what you have told us that so far today that in your opinion the only way you could bring that about is if the company concerned considered it in their commercial interest rather than applying Adam Smith.

MR. LEVY: No, when you talk about Canadian operations in Canada, I think you can expect in addition to commercial operations national awareness of Canada's problem. I think you have seen it in the behaviour of all your companies here, and therefore there is a different weighing of factors up by domestic companies or foreign-owned Canadian companies, as far as that problem is concerned, and while one might be able to figure dollar and cents-wise, as I mentioned this morning it might be more profitable in some respects not to do what you just

said might be done in Toronto. I would say that the profit motive is not the only, I did not say in the United States, it is not the only consideration that determines the policy. I think there has been awareness and decision that Canadian crude definitely should and must enter the Toronto market. As far as I can judge, voluntary decision. If you want a voluntary approach to the facts to this problem I would say there has also been a decision that the Toronto refining capacity would be greatly expanded in due course, and I think there has been recently a decision that Toronto refining capacity will not be fed by foreign crude. I think that has been -- that is, I can gather from the submissions the responsible and responsive decision in Canadian companies in the interests of the present --

MR. PATTILLO: Let me put this to you, Mr. Levy. If you were one of the chief executive officers of one of these companies whose parent is an international oil company, and you had refineries at Montreal, and you had refineries at Toronto, and you saw what could be done with the foreign crude prices, and you knew what the situation was in Canadian oil and its pro rationing, and you had made, for reasons other than pure profit as I assume you have just put it, a calculated decision to bring Canadian crude into the Toronto market in an attempt to saturate it with Canadian

crude and back out foreign crude into that market, which I understood from you this morning would come in easy as I won't say what, then are the Alberta producers asking too much of these refineries to not only adopt this policy in the Toronto market, but to move it to the Montreal market also?

MR. LEVY: As I said, nobody asks for too much here. The question is whether the yielding to that would be too much.

MR. PATTILLO: I would be very interested if you would develop your views on that.

MR. LEVY: Let me say this, if we assume for a moment that the Alberta producer has decided, and the Canadian Government agrees with him that the prospects of establishing the most logical and commercially most advantageous flow of Canadian oil into export markets is not possible. If further, it is believed that the resources as most people agree is of such magnitude it could easily support much more than this expanded market operation in Ontario. If further, the oil can be laid down in Montreal in a manner which would not do great economic harm to the Canadian economy, including the Canadian consumer, then I would feel that you might want to formulate a national policy along those lines. It still involves a host of problems from the point of view of the

companies operating in Montreal. There are lots of other problems related to this subject matter, and they should all be expanded and brought out into the open but you ask at the moment for a kind of, what shall I say, a short-cut approach to this problem.

MR. PATTILLO: Well, I am going to go into all the problems and everything. I know everybody, and in particular the Commission wants everything brought out in the open, and anything I do not ask you about I want you to feel free to volunteer. Have I correctly understood what you have said now, are you saying that first before you made a decision to go to Montreal immediately, in the interest of the Canadian consumer and the Canadian Government you said first find out definitely whether there can be a hemisphere policy for the North American Continent which would be more beneficial to the Alberta producer?

MR. LEVY: I would definitely feel that you should find that out first. I would also add to that that I would think that you cannot make that matter of exploratory expedition extending over the next few years. This is not this kind of a problem, but I think the issues are clear and

the facts are known.

MR. PATTILLO: If you were the Canadian charged with the responsibility of going to Washington I gather what you would do is go down and say gentlemen, we will do so and so, in such and such a time unless you come up with a better scheme which we think is more in the interests of both of us?

MR. LEVY: I would like to have the question raised that way.

MR. PATTILLO: Perhaps we could have a break now, Mr. Chairman?

THE CHAIRMAN: Yes, we will adjourn for ten minutes.

---A short recess.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing. Mr. Pattillo?

MR. PATTILLO: Thank you, Mr. Chairman.

Now, Mr. Levy, I am going to leave the subject that I was on for a few minutes, and go to this matter of pipeline transportation, and then after I have dealt with that I propose to move along to the Montreal market.

Dealing with the pipeline transportation costs, we had some evidence from Mr. Morrison, the President of Trans Mountain, that their present tariff, which was cut at the first of this year by a nickel, was down to 40¢, and that if the line was operating at capacity -- which it is not at the moment, unfortunately -- but if it was operating at capacity the cost of transportation from one end of the line to the other would be down to a figure of approximately 21¢. Now, using that figure of 21¢, and assuming that the line was at capacity, can you or Mr. Lipton give us any idea as to what, in your judgment, would be a reasonable mark-up that should be brought into play to give a fair return?

MR. LEVY: This question seems to be so difficult that I would like Mr. Lipton to answer it.

MR. LIPTON: Mr. Pattillo, I am not sure I understood the question. You are postulating an increase in Trans Mountain throughput to capacity?

MR. PATTILLO: Which, as I understand, then

would be costing the company 21¢ to transport from one terminus to another.

MR. LIPTON: It would cost them 21¢?

MR. PATTILLO: Yes.

MR. LIPTON: And you are asking me how much would one add on to that in order to arrive at a reasonable tariff?

MR. PATTILLO: Yes.

MR. LIPTON: For movement of the crude oil?

MR. PATTILLO: Yes.

MR. LIPTON: I would not have the slighest notion.

MR. PATTILLO: You would have to approach it from the other point of view entirely -- that is, finding out all the factors that you enumerated this morning?

MR. LIPTON: That is right.

MR. PATTILLO: Mr. Levy, if you were advising the Canadian Government about problems relating to oil, would you advise them to in any way regulate the tariffs to be charged by pipeline corporations transmitting oil across provincial boundaries?

MR. LEVY: Let me first say that if I would be asked to do so I would require a considerable amount of time and study to come up with an answer. Again, this is not avoiding an answer, but I will give you some of the considerations that would

enter my mind.

MR. PATTILLO: Yes.

MR. LEVY: I am sure that I could not give you a "yes" or "no" or "maybe". However, what I would consider, if this project were to be considered in my office, first is this: the Canadian oil industry is land-locked it needs pipelines to reach markets. Therefore, a pipeline has an importance in the Canadian setup as it may have nowhere else in this magnitude and of such relevance.

Frankly, I would be impressed by the consideration that once a pipeline is built, either of a certain size or going from a certain field into a certain area, that determines a great number of things for a long time to come. It determines where the oil is sold; it has an impact on prices, and on the efficiency and size of the operation. This is, therefore, a very, very important decision. It is even more important, because once a pipeline is built going into a certain direction it is very difficult to build a second pipeline going into the same direction. It is also in some instances very difficult to build a third pipeline going into another direction, because once an oil movement is channelled along a certain line there may not be enough oil immediately available or for some time to come to go into another line. So, you have there a range of problems which, in my simple mind, are

somewhat in excess of a normal commercial operating decision as far as the implications for the future of an industry are concerned. I would add to that that you may have situations in the pipeline industry where because of ownership and other relationships certain conflicts of interest develop. One group may own the pipeline; another one is a producer, and the third one may be a refiner. That is one situation. But you may have it all mixed it up: you may have part of the refining industry in and part of it out; and the same applies to the producing industry, and however well behaved people are -- and I know they are very well behaved here -- there is still a problem of realizing the equities in all instances, and even if you can realize the equities in all instances, you know that you do but you cannot convince the other fellow that you do. So, you have problems of great magnitude.

If you look at the pipelines as they develop in your country -- and I think again they are a great enterprise started at a time when not as much was known about Canadian oil as is known now, and they were supported particularly by some of the companies with a great degree of common sense and an approach to the common welfare of this country, and as time develops these pipelines may have become relatively small as compared with the prospects of the industry as far as production is

concerned and the prospects of the industry as far as markets is concerned.

That, I believe, is something which by the very history of its development was inevitable.

MR. PATTILLO: Now, when you say that are you including both Trans-Mountain and Interprovincial?

MR. LEVY: No, perhaps Interprovincial more, considerably more than Trans-Mountain. But let me add this. From the very nature of the history of this great pipe line, the aggregation of small pieces should become bigger and bigger. But the question arises, therefore, whether one must continue in terms of just supplementing in small pieces or whether you can plan big, and that is an important question.

MR. PATTILLO: And so you say in reaching a decision as to what regulation you would have as to pipe line tariffs and things like that, all these factors must be taken into consideration?

MR. LEVY: Very much so, and I believe they exceed the normal general selfish motivation of any particular company or any particular segment of the industry, and tied to it is the welfare, not of this particular company, of one particular segment, but the welfare of the whole industry. Again I say this is the beginning of a project as far as I am concerned, and in the process of looking further into it I may very well modify my original thinking on it.

MR. PATTILLO: Now, what are your views on the ownership of pipe lines? Do you think

that there should be any restriction on whether producers or refiners should have share control, share ownership in a pipe line?

MR. LEVY: I would say that, without having given it much study, I instinctively dislike restrictions per se. I don't think that, as a factor, they contribute much.

MR. PATTILLO: What about government ownership of a pipe line?

MR. LEVY: I would fear that the government ha enough problems without owning the pipe line. I don't mean that facetiously. I don't think you gain much from government ownership. I would very much distinguish from government concern or government supervision. Maybe the government could help along certain lines, but there is nothing in my experience which would make me feel that a government running a pipe line would do it better than a pipe line company.

MR. PATTILLO: When you are talking about a government helping along certain lines, I presume you mean perhaps accelerating depreciation or tax relief or something like that?

MR. LEVY: That is exactly what I had in mind.

MR. PATTILLO: What about your views on director control? The evidence that is before us is that in the case of Trans-Mountain

all of the directors are officers of a refining company carrying on business in North America, and, excepting the particular officers of the company itself, in the case of Interprovincial there is a director who is in no way associated with the oil business at all; the remaining directors are either officers or directors of refining companies or officers of the company itself.

Now, have you any views as to whether that is a desirable thing, to have a director control in the hands of the refineries?

MR. LEVY: I would hate to give a blanket answer to this kind of question because I don't think it would be a fair answer. That has nothing to do with the basic problem, should a pipe line be acting completely without certain controls or guidance by the government. That is a different problem. But whether you should limit anybody from becoming a director of the pipe line -- that would be contrary to my own feelings without having thought of it. I don't think anyone should be limited from doing anything as such.

MR. PATTILLO: Now, when we were discussing the other day in the presentation of Home Oil their concept of a new pipe line to Montreal, there was a discussion as to there being throughput agreements, and there was also some discussion when we were talking about the past history of Trans-

Mountain and Interprovincial, about deficiency agreements. Do you think it is, from your experience, possible to build a pipe line to Montreal or to any other refining centre and to finance it without having throughput agreements or deficiency agreements?

MR. LEVY: I would be inclined to say no. I believe there was some experience in the United States where one group tried to build a pipe line, a famous United States pipe line, without, in fact, a company proposal for sponsorship, and when the financing came up the question of throughput and deficiency agreements was just as essential as the steel you put into the pipe line.

MR. PATTILLO: Now, we have the evidence of all the people who are carrying on refining business in Montreal, and I think, to sum up their evidence, none of them were going to trip over each other and rush into the table to sign a throughput agreement. If none of them would sign a throughput agreement, and they were not required to change their minds, would it be possible in your opinion to build the line if you had no throughput agreements or guarantees from the producer?

MR. LEVY: I would hate to put my money into such a line. I don't think that you can have a pipe line which goes to a refinery which

obviously has no intention of using that pipe line.

MR. PATTILLO: Have you ever heard of a pipe line being built anywhere in the world where, although there were no throughput agreements or deficiency agreements, the government of the country had guaranteed or financed the line in some manner although the line was practically owned?

MR. LEVY: I think there is some experience in Canada ---

MR. PATTILLO: You are thinking about the gas. We are in oil today.

MR. LEVY: Not to my recollection. I don't think that -- I could add the Soviet Union. No, I don't know. It doesn't mean that it doesn't exist, but I would be surprised if it does.

MR. PATTILLO: Now, coming to the Montreal market, and first discussing how we would get there, is it your view that, assuming throughput agreements had been arranged, it would be more economic for an entirely new line to be constructed to Montreal rather than to extend the Interprovincial line? Is that your present thinking?

MR. LEVY: Mr. Pattillo, if you woud would permit me to make some comments made, perhaps, partly out of ignorance but at least based

on a general appraisal of the situation. My feeling is that if and when this oil industry here should get into Montreal and therefore expand its markets in one step by a very large quantity, I think this is a very unique opportunity to stop improvisingon transportation, and I believe that at this moment you should not add pieces and loops and add the small pumping facilities to it. I think you should take advantage of the technological improvements that have been made in large diameter pipe lines.

If you come back to what we were discussing a little while ago, this industry of yours is landlocked, in pricing and in other things dependent on its transport system, and your competitors in the Middle East, if they are competitors, have the advantage of these modern efficient tankers. Your industry, for historical reasons, had to start planning small. There is nothing wrong looking at that historically, but if you now have this unique chance of planning big, I think you would miss a great deal if you would not do so.

Let me add something to that. Even at that moment I would review and survey, if you do have to build a new pipe line, whether it couldn't take over some of the transportation coming from Alberta to places east which over long periods of time might result in considerable savings in

transportation; it might, without penalty to the present owners, allow a quicker economic obsolescence, perhaps a physical obsolescence, and the gain of an efficient transportation pipe line system to the economy of the oil industry in Canada I think cannot be exaggerated. Again, while I have no knowledge of detailed figures, I would be at least curious enough and concerned enough to try to figure out what may be done, perhaps, to bring the transportation system of your country on the most effective and efficient basis, and, mind you, I don't know enough to say that it isn't right now.

We have heard of pipe line rates for shipments to Montreal; we heard a 52 figure, we heard a 62 figure, and we have presently a pipe line laid to Toronto 300 miles closer to the field of 72 cents, which means even if you use for a moment that 60-cent differential, the big scale pipe line might be able to do the job 20 to 25 cents cheaper with regard to Toronto as it is done right now. Again maybe this is not the place to mention it, but the only suggestion I have, and nothing else, is that if you can plan big for pipe lines, for heaven's sake plan big. The penalty you will suffer for having a pipe line a little bit too large is ever so much smaller than the cost penalty which you suffer when you build that

pipe line too small and then have to expand by looping or pumping or what have you. When you are now tied to a transport system which, if there were free competition in pipe lines, lots of money going around, if a new pipe line to Toronto could be built, it could do the job for 50 cents instead of 72 cents, there would be a lot of headaches and heartaches in some offices and a lot of obsolescence. If you can do it without hurting people who should not be hurt, if you can plan that way, which I believe is worthwhile looking into, it would be a benefit to the whole Canadian industry.

MR. PATTILLO: So that what I understand you are saying is that if you are going to take this oil, Canadian oil, to Montreal you have certainly got to take a good look at the present transportation facilities and you would have to consider the matter carefully before you merely supplemented them, and you might have to build an entirely new line and thereby render obsolete what you now have.

MR. LEVY: If you add to the transportation responsibility of the new line transportation which is presently handled in perhaps less efficient ways, yes.

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MR. PATTILLO: Well if I understand it, would you advocate, or do you consider it feasible to build a line to Montreal which would handle no oil except that destined from Calgary or from Alberta to Montreal?

MR. LEVY: I think the pipeline studies that have been made by very responsible people, Dutton-Williams would support the possibility of that. I am not a pipeline expert. I would certainly give a great deal of weight to their judgment.

MR. PATTILLO: From your experience, do you think that in the end the line is going to result in a cheaper transportation cost to the ultimate consumer than if you had a line which had take-off points along the way and where substantial quantities were dropped?

MR. LEVY: Do you mean a larger line?

MR. PATTILLO: Yes.

MR. LEVY: I would say a larger line, the prima facie case would be that the larger line would be considered the cheaper in terms of ultimate terms and cost.

MR. PATTILLO: So that a line that was originally being conceived now to supply the markets presently supplied by Interprovincial and also Montreal would be a more economical line than just the line contemplated by Dutton-Williams for serving Montreal only?

MR. LEVY: As I said, perhaps I should be more careful the way I put it, I would take the best expert and have him look into that. I am not an expert. I can only say from the economies which we know of in larger lines, from the present rates that Interprovincial charges, and I am sure must charge in order to break even, from those lines it would appear -- if you can bring oil at 60¢, or 52¢, whatever figure you want to use, to Montreal, and the rate at present for Toronto is 72¢, the question becomes quite clear. Maybe the rate will go down. I am sure it will go down, but still I think you are entitled to raise a question and having raised it I think you have an obligation to look into it.

MR. PATTILLO: Now let's look at this Montreal market. From the study that you made, have you reached any conclusion and are you prepared to express any views as to whether the profits being made by the Montreal refiners today using foreign crude are greater or less than they could expect to make if they substituted Canadian crude? Now, I am just talking about the refiner himself, I am not directing myself to, for instance, the Standard organization.

MR. LEVY: You are also not considering the investment that would be obsolete?

MR. PATTILLO: No, we will bring that in.

MR. LEVY: I would in all honesty say you must be able to get the answers from the refiners themselves, and I cannot believe that my guess could be really responsible or of any value to you.

MR. PATTILLO: Thank you. Do you agree with the evidence that has been given to us that if you took Canadian crude into Montreal you would render obsolete the appointment to the Montreal pipeline, and you would render obsolete or perhaps render obsolete the products line running from Montreal to Toronto?

MR. LEVY: I would assume if you bring Canadian crude into Montreal that whatever imports will be left, I am sure there will be imports, have to be imports, maybe too small to make economical use of the port pipeline, but again I would bow to the judgment of the people who own the pipeline and know its facilities. I would add, however, if you consider from a company point of view the factors such as the one mentioned, namely the obsolescence of the auxiliary facilities, on the negative side, I think you in all fairness to add on the positive side of the ledger the accruing to all the individual companies of having a much larger share of the Canadian crude oil utilized in profitable refining. Or at least in profitable operation. I think obviously the sales of crude oil which our refineries participate in will increase and therefore as a profitable

item go up.

MR. PATTILLO: What you are saying, if I understand is so long as you bring foreign crude into Montreal, Montreal refiners profits are limited to refining, transporting, and marketing. If you bring Canadian crude in, therefore to the extent that they own any portion of that crude, their profits are increased by providing production?

MR. LEVY: That is right, and that counter balances the very fact that it has resulted in the obsolescence of equipment that was used for importing crude and therefore, these two items somehow have to be looked at at the same time.

MR. PATTILLO: What about what I would call the international setup of the situation of each of these refineries? We have Standard; we have Shell; we have Gulf; and we have Texas, all interested in present refineries through their subsidiaries in Montreal. Now the evidence is that in the case of Imperial, all of its requirements are coming from Venezuela. In the case of Shell the greater bulk is. In the case of McColl part is coming from there. Substantial amount coming from the Middle East, and in the case of Gulf, they have some coming from Venezuela and also some coming from the Middle East. Now, if you substitute Canadian crude for foreign crude, wouldn't the international parent company lose in the outlet?

MR. LEVY: The international parent would certainly lose a valuable crude outlet.

MR. PATTILLO: What they would lose would not be offset by the sale -- the increased sale -- of Canadian crude?

MR. LEVY: It is not likely because their affiliates here would only own part of the crude they would have to use.

MR.PATTILLO: So we get back to that bugaboo prorationing again. Now do you know, Mr. Levy, whether any of these international companies through subsidiaries which are engaged in Montreal would have any commitments with foreign imports which would require to continue to supply crude oil to Montreal and only abandon it if they were required to do so by government?

MR. LEVY: I have only seen what you have brought out in the record, and I have no further knowledge on that matter. I think you got it out in the most important instances during the course of the hearings.

MR. PATTILLO:Well that is contractual commitments, I think, particularly between B-A and Gulf, and you don't know of any commitments that would exist to a government?

MR. LEVY: To a government?

MR. PATTILLO: Yes.

MR. LEVY: Of your Canadian Government?

MR. PATTILLO: No, I am thinking --

MR. LEVY: Foreign government?

MR. PATTILLO: Of the foreign government.

MR. LEVY: I would say I have not heard of any. I would consider it most unlikely that there is a substantial commitment of that kind.

MR. PATTILLO: Now would you care to express your views, let me put it like this, do you think that it would be very realistic to consider taking Canadian crude into Montreal unless you had restrictions on the importation of foreign crude?

MR. LEVY: I think the problem would probably fall into two parts; the first one is the Maritimes, the second part is the Montreal refinery complex.

Now, of course, let us look at the Montreal refinery complex for a moment. If the companies would, in due course, I don't talk about any reasoning behind it, give throughput commitments along certain lines to a new pipeline, or whoever it is who brings the oil to Montreal, I think you can be in a position as far as those companies are concerned, to leave their remaining crude oil needs undisturbed as far as imports are concerned, and let them have imports from any source where they want crude. I think the companies would rightly expect, if new refineries are built in that area, they would have to take

Canadian crude to a certain extent. It is a big facility which brings in crude oil into that area; and that perhaps would handle the problem in a little bit less cumbersome way than we are presently handling it in our country.

That means if throughput commitment is given, on a percentage of capacity basis, on an escalator clause or whatever way you plan to do it, you can just forget the remaining import needs of those companies and let them handle it whatever way they want to. As far as the Maritimes are concerned they may be in a position that you have to limit the total import of crude in order to avoid shipment of refined products into other areas where the cost picture, or the relationship picture is not as clear-cut as in the Maritimes.

MR. PATTILLO: What puzzles me is, supposing the four people that are now operating refineries in Montreal did agree to sign through-put agreements, I could see then that you would not have to impose quotas as far as they are concerned because they voluntarily impose them on themselves. We understand that British Petroleum is considering locating a refinery in Montreal. How are you going to get them to voluntarily go into the deal?

MR. LEVY: Well, for instance, I do not know if they need a licence to build a refinery or whether there is any government approval needed but you would have government approval of a refinery operation contingent on a certain take of Canadian crude.

MR. PATTILLO: I see, you impose that by legislation?

MR. LEVY: I think in all equity you cannot have Montreal half free and half controlled.

MR. PATTILLO: Well, would you agree that the refiners that were voluntarily on Canadian crude would not be able to compete with refiners that came in and operated solely on foreign crude?

MR. LEVY: That is not exactly what I mean. It depends -- you see, it depends on the relationship of each individual company with regards to this foreign crude supply. There are possibilities which

we know of having foreign crude available for them and they would not accept Canadian crude, and you have to bring that about in all fairness to those who use Canadian crude.

MR. PATTILLO: Now, supposing you got the refiners to sign up this throughput agreement, agree to take 75% of their requirements with a minimum of so many barrels per day and they did that, those same people would be the producers out in Alberta, or an important segment of them, and they say,"Well, we have got every refiner now lined up in this thing and you cannot possibly come in here unless you get in the same bed we are in so let us put up the price". Now, that could happen, could it not?

MR. LEVY: It could happen but I believe you have a monopoly Commission.

MR. PATTILLO: Yes, I have heard something about that but it is very difficult to find out whether there has been any violation of the Combines Act if one person advances the price and every other person follows the leader.

MR. LEVY: I understand that for existing pipeline throughput agreements have already been given and that would give the same opportunity.

MR. PATTILLO: Not as long as the Sarnia price was based on Illinois crude laid down at Sarnia.

MR. LEVY: Yes, but it is not at all certain whether their pricing would change even then.

MR. PATTILLO: Well, the whole situation

today is that although there are one or two companies on the throughput agreement on the Interprovincial, there are a good many that are not and if the price was not based on Sarnia you would have foreign crude coming in pretty quickly but -- I think you would have no restriction of quota or embargo, you would agree with that, would you not? But that would not be the same if you had every refinery in Montreal presently there required to take a certain amount of his requirements and if you said to the other fellow that wanted to come in, "Come in and spend your money but sign here first because you are in the same bed with us", then would they not be in a position so far, at least, as far as the Montreal people are concerned, they would not need to worry about the price of Illinois crude.

MR. LEVY: May I submit to you that right now lots of refiners in Canada which only have access to Canadian crude and the producers there by a proposition could make up for lots of sales by asking for higher prices. It would take a long time before inland transportation could reach into some places.

MR. PATTILLO: Such as Regina and Edmonton and all those places?

MR. LEVY: Yes.

MR. PATTILLO: You do not have that happen if you have one pricing system and one uniform price. They once considered having a one-price system in

Venezuela, did they not?

MR. LEVY: On crude oil?

MR. PATTILLO: Yes.

MR. LEVY: Not to my knowledge. What happened, as I said earlier, one came up to the normal price of others but I am not aware of an official two-price system.

MR. PATTILLO: I do not think it ever came before us but I understood it was in fact considered at one time back in the late 1940's.

MR. LEVY: At the moment I am not aware of it. There is something like that on products, particularly fuel oil, a lot of fuel oil moves to the United States, to the East Coast. As far as United States is concerned, it absorbs a 5-1/2¢ duty but to others it is based on f.o.b. price -- as far as crude oil is concerned it is f.o.b. price to all destinations.

MR. PATTILLO: In addition to this method which you suggested of throughputs, have you any views which you would care to express as to the admissibility and effectiveness of imposing a tariff on foreign crude oil?

MR. LEVY: May I perhaps just say as far as suggesting a throughput agreement, I think you started your question with "suppose that" and therefore I would just leave it at that. As far as the tariff is concerned I am not certain that any reasonable tariff would, in fact, exclude foreign oil

that wants to come in. Secondly, a tariff which would have to be applied against all exporting countries would probably sooner shut out Venezuelan oil which from the security point of view, as long as you import, I am sure you would prefer bringing Middle East oil in -- I would not expect that you would solve your financial problems without a throughput agreement.

MR. PATTILLO: Would you consider that if the country put on a tariff of 10 1/2¢ and 5 1/4¢ as has the United Stated you could do - - -

MR. LEVY: I would give that problem serious consideration and I will give you the reasons for that: basically I believe that I am personally for free trade wherever it possibly can be had. However, to some extent when and if you move into the United States and you will have to move into the United States, looking down the line there are things developing, you have to overcome a tariff barrier, 10 1/2¢ and 5 1/4¢ and to that extent therefore it affects your price in the Alberta and other oil fields. The second thing that I would consider is, when you consider equalization with Venezuelan oil and in any effective way you equalize this oil which already has a freight absorption element in its delivery of 10 1/2¢ or 5 1/4¢ and to that extent if you want to put it that way you are affected by the United States tariff. I believe

most sincerely that basically this industry here and our United States industry have a great deal in common as far as production is concerned and somehow anything we do has an impact here in Canada and vice versa. Therefore, the tariff problem on crude oil oil is one which I would consider carefully because the there are many pros and many cons in that picture. The whole picture should be looked at carefully and not be ignored.

MR. PATTILLO: Would you think that Canadian representatives to Washington might be received with any more favour if you were able to go down and say, "We have put on a tariff equal to yours"?

MR. LEVY: I do not think it would make too much difference from that view. From the security argument the basic Canadian-United States facing of the problems is a big consideration.

MR. PATTILLO: But you do think if you put it on it puts the Canadian producer in a better relative position vis-a-vis the United States and Venezuela.

MR. LEVY: It would have an effect there but let me be clear on that, there are many other factors which are not as big when considered in that light and free trade is very dear to your country and heaven help me if I discouraged it.

MR. PATTILLO: What about the idea of these

quotas both voluntary and involuntary, do you think that the imposition of all throughput agreements or the agreement to throughput agreements is ineffective voluntary quota system?

MR. LEVY: It is a more effective quota system than we have in our country.

MR. PATTILLO: However, supposing these refiners, as they would be quite entitled to do, suggest that they did not like it and would not sign and the government had it in the national interest to move Canadian crude to Montreal, under these circumstances what would you think of the imposing of mandatory quotas, first partial quotas and then entire quotas or embargoes?

MR. LEVY: I can only say if you could possibly avoid it by following the other route we feel that from a trade policy point of view, from an administrative point of view and from a point of view of keeping flexibility you would be ever so much better. I think you have an opportunity to avoid it and it is your decision and nobody else's if you want a Montreal line I think you could probably avoid the trade quota problem by tying it to refiners, actual existing refiners and licensing for the others.

MR. PATTILLO: But what you are really suggesting, this requires that so long as the refiners are not prepared to voluntarily agree, somebody doing something to make them volunteer in the same way as

the companies are volunteering and accepting quotas down in the United States -- ?

MR. LEVY: The companies have accepted, there are few exceptions, it is in the national interest of security by agreeing to the voluntary import scheme. It may well come out of these hearings of this Commission whatever else follows that the Montreal market is in the national interest, or a conviction that it is not, and it is established and becomes a national policy in C-nada. I would be surprised if Canadian companies would behave differently from American companies.

MR. PATTILLO: Well now, you have mentioned to us about the problem of the Maritime situation and how you would deal with that would require government control, would it not?

MR. LEVY: It would require certain government control. I am not trying to fool anybody, all these things imply government control. There the question can be raised about the administrative burdens that are caused by administrative problems in the United States and they are great coming within the "voluntary" import policies.

MR. PATTILLO: I am just going to ask from your experience during the last war and then your subsequent experience following the war with the government, the minute you in any way interfere with the free play of the company's operations you have difficulty in knowing where to stop, do you not?

MR. PATTILLO: If you thought that it was in the national interest to take Canadian crude to Montreal and the government felt that and they then called in the refiners and said, "Boys, we would like you to voluntarily come back on Monday and sign this throughput agreement," and everybody voluntarily came back on Monday, wouldn't you then be faced, as the government, with thinking how are we going to make certain this doesn't react to the detriment of the consumer, wouldn't the government have to look at the problem of pro rationing and whether that should continue to be permitted if it does have an effect in keeping the prices up?

MR. LEVY: I would truly agree with you that it is a government responsibility to look at all problems centring around a specific government action and its implications. Whether it would directly involve pro rationing in this particular case, I am not sure.

MR. PATTILLO: Would you agree with me if they decide to take this over there is one thing that they would probably have to do, and that is be sure that they regulated the tariffs of pipe line companies and were very careful as to the rates being charged?

MR. LEVY: We discussed before, I believe, that it is essential to have a very close

look at the pipe line problem because that involves a control over rates and tariffs in any system. I am really not prepared to say definitely. I know that if I were in the Government of Canada I would inform myself much more than I personally would now.

MR. PATTILLO: Would you think that the Government might even have to give consideration to controlling the rate development that would be permitted?

MR. LEVY: I would hope not, not more than it has done already, in conservation and other things.

MR. PATTILLO: Well, don't you agree with me that if you started a project such as going to the Montreal market in the next three years and started going immediately with the intention of being there in the next three years, the result might be that you would have such a spurt of development out here that by the time you got the pipe line built the pro ration percentage to market wouldn't be any greater than it is now?

MR. LEVY: I hope it would be that way. I think the first problem would be much more comfortable. What I really mean to say is that I believe that if there is a great spurt in activities, as we said before, ultimately this country of yours, to develop its resources in oil, will

need a large part of the United States market. It may come sooner, it may come later, but as a result of increasing your Canadian market you would, in fact, need the United States market sooner.

MR. PATTILLO: I am not sure that I am following that.

MR. LEVY: Right now the situation is that the Montreal market **may** become available to the Canadian producer, and if that becomes the case I don't think that that would, as such, make it necessary for Canada at the same time to have an increasing share of the U.S. market. I think that that may be somewhat postponed.

MR. PATTILLO: What I am thinking of is at the present time the cry is that there is a very small percentage of MPR which is being produced. Now, they are looking for ways and means of increasing that percentage, and I was wondering if the decision was made tomorrow by the Canadian Government to build a pipe line to Montreal for the purpose of putting Canadian crude in there and the refineries there had decided that they would take a certain percentage of the minimum throughput, probably what would happen is that there would be such a fillip to develop that that by the time a line was built, which is estimated at three years, we would be back in the same position that we are right now. Has that happened in other places,

in your experience?

MR. LEVY: That would happen whether you moved increasing quantities into exports or to Montreal. If you come home from Washington one of these days and say the United States market is wide open and there are import restrictions that would keep other oils out, what fillip would that cause? Or what you may need is the Montreal market.

MR. PATTILLO: So you don't think there would be any necessity for controlling the rate of development?

MR. LEVY: As I stated, I hope not.

MR. PATTILLO: What would you think as to the possibility arising, the necessity of regulating the price at the wellhead?

MR. LEVY: No more and no less than right now.

MR. PATTILLO: Even though today you have the constant threat of import of crude keeping that price down?

MR. LEVY: Now, maybe I should go a little bit into that. The price of foreign crude has an impact on the price of Western Hemisphere, United States and Canadian crude. That impact, I am sure, will remain. It has been somewhat modified by the import policy of the United States which keeps the foreign supply availability for the United States market on a lower level than it

otherwise might be. It definitely has an impact on United States prices, it affects Canada and Venezuela at the same time. If you ship your oil to Montreal I don't think that would result in any difference as far as this policy is concerned. Your price moves with the United States price and the United States price has some relationship, if you want to put it that way, to the foreign availabilities in the United States. I think you would have the same advantages or disadvantages of a United States price relationship as you have now.

MR. PATTILLO: Do you think, looking at the present situation, when it is supposed to be in the third year period, that the United States policy completely changed and because it had no longer production to meet its demand it permitted foreign crude to come in in great abundance and that resulted in the price substantially dropping in the United States? Now, as I follow you that would result in the price substantially dropping and that would result in the price dropping at Montreal and the producer in Alberta would get a much lower price.

MR. LEVY: I would hate to be categorical about it. If that day should come, and it is a big "if" -- if the United States crude prices should come down with a bang what happens to Canadian

prices I would say would be basically dependent on the supply and demand relationship. If at that time you export a large amount of oil to the United States market you would have to follow it to remain competitive. If at that time you were just supplying Canada, then the decision in front of you would be, do you want to expose your industry to that or do you want to introduce at that time a tariff?

MR. PATTILLO: Or do you want to put in controls?

MR. LEVY: Yes.

MR. PATTILLO: What I am talking about is without controls.

MR. LEVY: Exactly. Isolate your economy, if you can, from the United States economy, but I don't think you can theoretically discuss what you may or may not do at this time.

MR. PATTILLO: Well now, do you know of any country in the world that is an oil-producing country - -

MR. LEVY: Quite a number.

MR. PATTILLO: You haven't got that; I gathered that all day, Mr. Levy. Do you know of any country in the world that is an oil producing country and that at the same time, other than Canada, at the same time is an importer of crude except to the extent that its own production is insufficient?

MR. LEVY: I would say, Mr. Pattillo, that at this moment I do not know of any. I cannot think of such a country. If I may correct the record, Mr. Lipton points out the United States, but you made the qualification -- we have sufficient oil at the moment but still I do not think it is what you had in mind.

MR. PATTILLO: No. The United States has sufficient oil at the moment to meet all its requirements if it wanted to do so, and could shut out imports entirely?

MR. LEVY: Yes. It has import control as you notice at this moment.

MR. PATTILLO: Do you know of any country other than Canada which has sufficient crude to meet all its own requirements where foreign crude is being permitted to come into the country without any restriction whatsoever?

MR. LEVY: I do not recollect. I cannot recall any country.

MR. PATTILLO: Do you think, supposing that you had all this voluntary or involuntary through-put agreement in Canadian crude into Montreal, do you think the permitted continued importation of products would in any way have any effect? First, do you think that the refiner in Montreal who has volunteered to take Canadian crude would be entitled to say I want a quota put on products too? I am not going to have the importer --

MR. LEVY: Let me perhaps answer it this way. At the moment I would argue that the products you bring in are basically brought in at the U. S. price level, because it is f.o.b. price plus transportation. The crude oil you would get in Montreal is certainly not more expensive than U.S. crude oil to the United States refiner, therefore prima facie at least you should be competitive with imported products particularly keeping in mind that there is a product tariff protecting domestic refineries --

MR. PATTILLO: Do you use the word "cartel"?

MR. LEVY: -- domestic refining industry by about 18 to 19¢, so basically I would feel that to the extent that the crude oil available to them is not more costly than U.S. crude oil delivered they should be able to be competitive. If experience

would show, or they had a good and solid reason to do what you suggested, you may have to do it. You may have to raise the product tariff, which is a simpler way.

MR. PATTILLO: Am I correct then in summing up, what you are really saying about the Montreal market is this: if the Canadian Government decided that it was in the national interest to increase the productivity of the wells in Alberta, and make Canada self-sufficient in both its production and consumption of oil, then before making a final decision in the matter a great deal of study should be given by well-informed persons to the problem of transportation; to the problem of quota, voluntary or involuntary; to the question of tariff on products or necessary quotas, and to the measure of control which might be further required on prices for the protection of the ultimate consumer. Would you consider all those things would have to be thoroughly studied by well-informed people?

MR. LEVY: I would certainly feel that these problems must be thoroughly studied, and must be studied I would say expeditiously because the problem is with you now and I think you would like to know where you stand as soon as possible, and I think, therefore, this cannot be a matter for years and years of consideration.

MR. PATTILLO: Would you be content if I gave you overnight Mr. Levy? I see it is four-thirty.

MR. LEVY: Thank you very much.

THE CHAIRMAN: There is just one question I would like to ask Mr. Levy, if you don't mind for a moment, while it is in my thought relative to this price of the manufactured products, and the question that you raised of the possible necessity of increasing the Canadian tariff against the importation of such products.

Now, if you assumed that you were laying down Canadian crude in Montreal, refining in Montreal under throughput agreement and the laid-down cost of that crude in Montreal did not result in -- well, let's have a margin, too great a diminution in the refining profit of the refiners, would not the manufactured product still remain -- the Canadian manufactured product still remain competitive with the imported one without the increase in any tariff? If not, if you just let me follow if you don't mind, if not, would not then be the time that the refiner or the industry having been hurt and unable to produce its product in competition under an existing tariff with the imported product, would then ask the government to interfere?

MR. LEVY: That reflects what I tried to say, sir. I agree with you. At that time, not now.

THE CHAIRMAN: Thank you. Well, it is very good of you to subject yourself to questioning all day, and willing to remain tomorrow. Thank you, Mr. Levy.

Gentlemen, we will adjourn until ten o'clock tomorrow morning in this room.

---Whereupon the hearing adjourned at 4.30 p.m. until 10.00 a.m. on Tuesday, May 13, 1958.

ROYAL COMMISSION

ON

ENERGY

Hearings held at Calgary, commencing Tuesday, April 29, 1958, at 10.00 a.m.

PRESENT:

Mr. H. Borden, C.M.G., Q.C. -- Chairman

Mr. J.L. Levesque -- Member

Mr. G.E. Britnell -- Member

Dr. R.D. Howland -- Member

Mr. L.J. Ladner, Q.C. -- Member

Dr. R.M. Hardy -- Member

COMMISSION COUNSEL:

Mr. A.S. Pattillo, Q.C.

Mr. Miles H. Patterson.

Mr. J.F. Parkinson -- Secretary to the Commission.

Major N. Lafrance -- Assistant Secretary to the Commission.

APPEARANCES:

Mr. W. N. J. Levy

Mr. M. Lipton

EXHIBITS

No.	Description	Page
CC-13-1	Submission of The Joint Crow's Nest Pass Towns Committee	5676
CC-13-2	Submission of The Research Council of Alberta. The Athabasca Oil Sands	5776
CC-13-3	Submission of Royalite Oil Company, Limited	5822

APPEARANCES:

Representing The Joint Crow's Nest Pass Towns Committee

Mr. N. E. Aboussafy	Mayor of Coleman
Mr. J. White	Mayor of Fernie
Mr. E. Goulding	Mayor of Bellevue
Mr. D. B. Young	President, Chamber of Commerce

Representing The Research Council of Alberta The Athabasca Oil Sands

Dr. D. S. Pasternak

Dr. G. W. Hodgson

Dr. K. A. Clark

Mr. M. A. Carrigy

Dr. N. H. Grace

Representing Royalite Oil Company, Limited

Mr. E. J. Chambers	Counsel
Mr. Charles Hay	Executive Vice-President
Mr. Gordon A. Connell	Chief Petroleum Engineer

Tuesday,
May 13, 1958.

---On resuming at 10.00 a.m.

---Mr. Commissioner Levesque was not present.
---Mr. Commissioner Ladner was not present.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing. Mr. Pattillo?

MR. PATTILLO: Thank you, Mr. Chairman. Mr. Levy, yesterday afternoon when we were talking about Montreal markets, you at one time said that there were many factors that had to be considered, and I regret that I neglected to get you to list the various factors that you thought had to be considered, and I wish you would do so now.

MR. LEVY: Thank you very much, Mr. Pattillo. If you will permit me, I would like to review these factors within the framework of summary consideration of the problems of outlets for Canadian crude.

MR. PATTILLO: That will be fine.

MR. LEVY: I would say the first thing is you have at present a severe problem with regard to market outlets for Canadian crude. It has been aggravated by the recession, but it has not been caused by it, and it will not end by it when the recession comes to an end. I think this is very important as a background.

The second point, the problem perhaps could and should be approached on an intermediate

level and on a future level, say the position in 1960 and 1961, and I would say what could be done immediately should, if possible, be done in such a manner that it will not handicap the industry in the future.

Point No. 3: I would say relief that would be based on any new facilities would take at least one to two and a half years to become effective. Therefore, Point No. 4, the immediate relief, if I address myself to that first, would have to be based on existing facilities.

In connection with this possibility, which is a stop-gap, perhaps, possibility, one might perhaps consider extending what has been done in fact by one of your corporations; namely, to switch imports into Montreal, to switch imports into Montreal in such a manner that Canadian crude can flow in larger quantities to our West Coast. It has been done in one instance on a limited scale. I think you might wish to consider whether the companies which operate in Montreal without loss to themselves could, as it has been done in one instance, obtain foreign crude that would have otherwise gone to the United States West Coast; provided, that the United States West Coast importer ships more Canadian crude to the West Coast.

That may involve problems of quality. It may involve in certain instances three-cornered

deals. It may involve complications, but in general at least for some of the possible transactions it should not pose insurmountable difficulties.

Now, there have been suggestions made also about an interim kind of intermediate plan. It strikes us that most of the things that have been included in the intermediate plan would have accrued as market outlets to the Canadian oil industry anyhow, and consequently, of course, the intermediate plan is a plan which would have to mature over time, and I would further say that the intermediate plan must not and should not again jeopardize the longer term prospects of Canadian oil.

Point No. 6: The position in the United States market in terms of large-scale future expansion possibilities is, as we discussed it yesterday, something which one cannot ignore as a profitable and possible outlet for Canadian crude. It depends on governmental policies in my country as well as your country. I would say that without alternatives available I do not see any reason really why a discussion of that project on a government to government basis, or in whatever form it would have to be done, should involve delays which would make you miss next construction season. I would say the July season of this year is out anyhow. The next construction season, I see no reason why that should be lost if the decision moves easily.

Point No. 7: The existing pipeline transport system of your country grew organically, and to some extent therefore, as we discussed it yesterday, it does not in all instances benefit from the economy of size. The next substantial market addition to Canadian crude, if at all possible, should be used to give the Canadian industry a chance to benefit from the economy of size. My associate, Mr. Lipton, will, after the end of this summary, make some added points with regard to this very important aspect of the future.

Point No. 8:: An overall agreement with the United States on a common oil market, if that is the phrase to use, would also presuppose a common approach of Canada, the United States and other Western Hemisphere countries which would have to be included, such as Venezuela, would also involve a common approach to many other oil problems. It could therefore also mean that controls which the United States has already, or may have to impose in the name of security, would have to be approached over here. You cannot have security south of the border, security arrangements, if they are not matched by security arrangements north of the border if you have a common approach to this problem. I would further say that sacrifices that the United States companies would have to make in the name of security would obviously have to be sacrifices that if necessary Canadian companies would

also be willing to make.

Therefore, the capture of the United States market, or an expanded market for Canadian oil may just well involve certain policy aspects which at present would appear undesirable if they are applied say to the capture of the Montreal market. Now just this other point on the question of the price in Montreal. If big-scale pipelines become available, on the basis of the evidence that has been submitted here, it would appear that Canadian crude oil prices could be laid-down competitively in Montreal with delivered Venezuelan crude oil prices. That would mean that in general at least Canadian crude could be landed there competitively provided you have cheap transportation. As far as future declines of foreign oil price is concerned I would say that it is a distinct possibility. This is particularly a distinct possibility if the Western Hemisphere should, through import policies, or what have you, isolate itself even more from the impact of foreign oil. I would further say that the Canadian oil industry could not possibly ever match competitively foreign oil prices if they should go down to any large extent. They could not match and compete with foreign oil in Montreal in the same manner as they could not match and compete with foreign oil in Puget Sound, California, or what have you.

Therefore, if future foreign oil prices delivered on a posted or discount basis, whatever way you wish, if these prices were to really fall further I do not believe that the Canadian oil industry could suffer these price declines that would be implied. I believe the basic cost structure, the resource character in Canada is similar to the United States price; in my judgment at least, would probably stay so and would probably be essential to the progress of Canadian oil developments. I will leave this in short, reasonably short form. If I might, I would ask Mr. Lipton to say a few words on the transportation aspect.

THE CHAIRMAN: Certainly.

MR. PATTILLO: Would you proceed, Mr. Lipton, please?

MR. LIPTON: I think the take-off point for whatever remarks I could add is Mr. Levy's suggestion as to the key role of transportation for the Canadian oil economy. As was suggested by Mr. Levy yesterday, and I think has recurred so often in the course of your proceedings; transportation on the one hand determines the cost of -- transport determines the perimeter of the market area for Canadian crude in terms of cost to refiners, and at one and the same time, it determines the amount of wellhead prices your producer

can expect to receive on the net back from their competitive markets. This transportation, and the lowest possible cost at which transport can be provided, becomes rather essential as one looks into the future potential markets for Canadian crude.

I think the picture that emerges is of an increasing penetration of Canadian crude along its present market perimeter, and one of those places is of course Eastern Ontario, so that one can anticipate in the course of time that there will be a build-up in the flow of Canadian crude into refineries in the East, in Ontario. At the same time, as one considers expanded markets, whether it is in the United States mid-west, or in Ontario, this will pose requirements of even greater flows of Canadian crude eastwards. Now, the question is just how transportation facilities might be developed so as to take maximum advantage of the future of this crude oil. We, of course, are not experts on pipelines, and to the extent that we feel bold enough to make any comments at all today it is because of the amount of evidence that has already been introduced. I am impressed with the fact that over the course of your proceedings there have been suggestions made that Canadian crude could be put through to Montreal at a tariff of 52¢, or a tariff of 60¢, or a tariff of 70¢. In each case at a transportation cost which is less than the transportation cost that is now involved in shipment to

Toronto. I do not think that there are probably essential differences in these tariff quotes or suggestions that have been presented to the Royal Commission. I think perhaps the difference among them rests more on the conception of markets and the volume of crude oil that might be transported over the lines under these alternative tariffs. Now if as has been suggested there is going to be this build-up of requirements in Eastern Ontario, this means the pipeline capacity will have to be expanded somewhat. Now this expansion of pipeline capacity can be undertaken under the existing terms and cost conditions, perhaps not too different from what they have been in the past, and the rate structure presumably which is not too different from what they have in the past. If, after this has been done, a year thereafter, or two years thereafter, or three years thereafter, Canadian crude has to move to Montreal for lack of United States markets, or Canadian crude finds export markets in the United States mid-west, then the provision of transport facilities by an additional two or three hundred thousand barrels per day provides exactly the same kind of logistic problems as it does today. The suggestion seems to me at least worthy of consideration that with the expanded movement that has already been projected eastward, as the penetration of the Ontario market is increased, and refinery capacity is built up in

Toronto, that one can now instead of building on the past look increasingly towards future requirements and so co-ordinate the planning and thinking of our transport capacities, so that as one builds pipeline capacity that takes care of these potential requirements and provides transport facilities at the lowest possible cost.

Now, I think, without being able to go further, I just throw this in as a suggestion, that in view of the tremendous importance of the transportation costs to the competitive perimeter of Canadian crude on the one hand and the wellhead price that may be realized on the other hand, this whole subject of low cost transportation by maximizing the efficiency of transport in the same way as overseas foreign producers have increased the efficiency of transport by large-scale tankers, that this becomes a crying issue for Canadian oil and is tied in irrevocably with its competitive position in these markets.

MR. PATTILLO: Thank you, Mr. Lipton.

Now, Mr. Levy, I would like to ask some questions arising out of this statement you have just read into the record. First, let us take the immediate problem and the immediate solution. As I understand it, you are suggesting canvassing of exchange of crude oil similar to that now in effect between Imperial and Socony.

MR. LEVY: It seems to me that this idea of Imperial obviously should be investigated, and it can be expanded.

MR. PATTILLO: In addition to that, as an immediate solution, do you think that all of the producing companies in Alberta that have international affiliates who have refineries in proximity

to the pipeline should be canvassed in an effort to have each and every one of these refiners take at least some part of their requirements in Canadian crude?

MR. LEVY: As far as this question is concerned, that would assume that the Canadian producing affiliate would continually check with its parent company as to what it can and will do. I think I said yesterday that the parent company in turn should look at the problem differently and has obviously to look at the problem differently.

Imperial is in the position in that it doesn't ask the American company to do anything which would be disadvantageous to one of its foreign affiliates, and I think the combination of these two ideas may perhaps be a workable proposition.

MR. PATTILLO: Now, I want to come to the intermediate problem. As I understand, you think that the proposal to increase the Ontario market by about somewhere between 80,000 and 100,000 barrels per day falls within the range of an intermediate solution and it is one which you would anticipate would occur in any event.

MR. LEVY: Let me put it this way, that I believe, in the estimates that Mr. Lipton and I worked out, without considering this problem on an intermediate basis, we assumed some increase in Ontario would come about; we did not assume the

reversal of the Trans Northern product pipeline, but we were looking at it based on the concept that if foreign oil wished to do so it could be in Toronto as well as in Montreal.

MR. PATTILLO: In looking at this intermediate problem, if the natural laws of economics were allowed their full play, is it your experience in the oil business that the way to extend the perimeter of your market is to move ahead, saturating each market before you move further ahead and extend the perimeter?

MR. LEVY: You mean leapfrogging or not leapfrogging?

MR. PATTILLO: That is right.

MR. LEVY: I don't think you can make hard and fast rules on that one.

MR. PATTILLO: So that you say there is nothing inherently wrong in the leapfrog?

MR. LEVY: Let me say that Middle East oil has moved into the western hemisphere under certain conditions before it completely saturated Europe, and it still does.

MR. PATTILLO: Now, again looking at this as an immediate problem, and weighing it as to the ultimate national policy that might be adopted by Canada, do I understand you to say that you think the Canadian Government should immediately determine whether or not oil should be moved to Montreal and

that determination should be made so that it would be quite possible, if deemed advisable, to proceed with construction in the construction season in 1959, and that having made that decision and having made the propositions necessary to carry it out, then an approach should be made by the highest Canadian Government authorities to the highest United States Government authorities to say whether or not it would be possible to work out, not national policy for oil but a western hemisphere policy?

MR. LEVY: Mr. Pattillo, there is one qualification, perhaps. I would say that the decision, if I may be bold enough to suggest, which should be made would be, I gather, that if Canadian oil cannot enter the United States market on a large and expanding scale, be it the west coast or be it Chicago, then I believe the decision may well be made here that you will go to Montreal, and as early as possible, and you may set for yourself a date when you will finalize your decision either way, a date which precedes the next construction season. I think, otherwise -- I have been in my Government itself, and I know how long it can take if one wants to delay things.

MR. PATTILLO: Let me put it this way: if you were advising the Canadian Government and it became possible, either by negotiations with the United States Government or by decisions reached

by the companies themselves, to greatly expand the market for Canadian crude in the Puget Sound area and in the middle west section of the United States, in the immediate future, would you then postpone going to Montreal with Canadian crude until those markets had been fully built up to the best of their potential?

MR. LEVY: I would like -- it is hard to judge this question. What I talk about in the intermediate term are not very large quantities. In the very nature of the demand in that area, with the necessity for these companies on our west coast to bring other crude in addition to whatever exchange arrangements can be made, I don't think you can figure on relief in that area to any very substantial scale. What I had in mind was a very depressed situation, and I don't believe that you will find this will give over the longer term the relief you want to have, but experience will show.

MR. PATTILLO: Now, may I ask you this question as an economist: if you were advising the Canadian Government as to a national policy on oil, would you recommend that it make itself self-sufficient in oil, not only in production but in distribution and supply, whether that step was the most economic one or not?

MR. LEVY: Self-sufficient means that Canadian crude will be going first and foremost to Canadian markets?

MR. PATTILLO: That is right, that is what I mean, that Canadian crude would have priority to Canadian markets and it would only be to the extent that the deficiency and quality and that sort of thing that would be made up by foreign crude.

MR. LEVY: I would like my associate Mr. Lipton to deal with this question,as you started it,as an economist.

MR. LIPTON: Mr. Pattillo, as an economist I must vote in all circumstances for the distribution of resources which gives the most economical utilization of resources and in the context of your general question I would not recommend such a distribution of resources, say,in terms of national self-sufficiency as would involve uneconomic utilization of resources in preference to economic utilization of resources. However, I am not sure that that is precisely the

question or issue that is facing Canada. It seems to me the issue that is facing you really is the choice between perhaps something less than the optimum in the utilization of resources as against non-utilization of resources and therefore as an economist my answer, I think, might be quite different. It depends on what price you pay for non-utilization of the resources such as you are suffering today and apparently for some years in the future as against the price you would have to pay under less than optimum utilization of resources.

MR. PATTILLO: Now, I am not too clear that I got that but let me try this, and I won't put any qualifying phrase in it. If you were faced with the problem of making the decision in Canada of whether it would be in the interests of Canada or in the best interests of Canada to move Canadian crude across the country with the result that the producers would be committed to that market and the refiners in the Montreal area would be committed to take Canadian crude regardless of how much cheaper they could buy foreign crude at any time in the next thirty years, would you nevertheless decide that these restrictions should be placed on the producers and refiners in the overall interest of Canada and its economy?

MR. LEVY: If the prospects in the United States could not be developed through the means

we discussed, if the resources here are as rich as your geologists think, then I would say you should do so.

MR. PATTILLO: Now, I just have a few tag end questions that I would like to ask: you have heard probably, or read in the record, a good deal of evidence as to comparative refinery costs and profits in the Montreal area and the Toronto area today. Now, am I correct that if one were going to make a true comparison of refinery profits, one refinery vis-a-vis the other in different markets, a careful study would have to be made of the markets which each refiner is supplying, the effect of those markets on the use that the crude taken into the refineries is put to, and the end result of what profits come out of the crude?

MR. LEVY: In order to size up the economics of refinery operation I am sure you would find you would have to look at all these factors.

MR. PATTILLO: It is not sufficient merely to examine posted prices for products in both areas and, if they bear a similarity, simply say that the crude was obtained for a lesser amount in one area then in the other, and you have such posted prices for certain products, then obviously one refinery is making more profit than the other?

MR. LEVY: I would say particularly not if one important product is not mentioned, namely

fuel oil; if the products of the refinery are considered and all other factors are considered I do not think you could compare it just with a few prices.

MR. PATTILLO: Now, I would like to direct a few questions to another subject that was considered a good deal in the evidence. Based on your experience in the oil business what do you say is generally accepted as a rate of return that is necessary in order to provide proper incentive to the producer to continue exploration and development?

MR. LEVY: Mr. Pattillo, I wish I knew. I have seen people who have spent money on production work, I have seen people go broke and I have seen people grow rich, and the incentive, I am sure, was always incomprehensible, or easy to understand, whichever way you sized them up.

MR. PATTILLO: So it is a matter of each producer's best judgment?

MR. LEVY: Yes. Perhaps I should address myself to this one point which I have mentioned already in passing: if your market outlets are limited and shrinking, if you are facing the competition in your market of oil with practically no replacement value, under those conditions I would assume the incentive, even of an Alberta producer, would decline.

MR. PATTILLO: Perhaps you could help me on this: I find it rather anomalous to be told how depressed this industry is in Alberta and at the same time find these people who are talking depression taking up large holdings as far north as the delta of the Mackenzie River and proposing to go up there and explore when so far as I know probably the nearest market they will have will be the Eskimoes using molasses and sulphur. Can you explain that anomaly to me?

MR. LEVY: Yes, I think I can say on this kind of action the oil business was built up. I think it was as "fool crazy" as some companies in the 30's, in the depression, when they went into the Middle East , and I do not think they regret it at this time.

MR. PATTILLO: Now, you probably have heard that we have had a good deal of evidence about, not only oil, but gas, and I just do not mean it has been gaseous evidence. Do you think that finding markets for natural gas that is available in Alberta is going to alleviate the situation and would you suggest that that is perhaps one of the immediate palliatives that should be given consideration?

MR. LEVY: I am sure that they would come naturally. You do not have to do anything about it, and that would obviously improve the

income of some of the producers. Actually, as far as gas is concerned it will reduce the markets for oil:so,to the same extent,it is coming out of their skin, too.

MR. PATTILLO: Well, apparently there are a lot of people in the United States who are anxious to take our gas.

MR. LEVY: They are not the oil producers and not the coal producers either.

MR. PATTILLO: Now, I think I did ask some questions yesterday about this but I do not think I put this particular question, and I would like to do it now: you agreed yesterday that you could not build a pipe line to Montreal unless you had throughput agreements and in your past you have been called on to be a consultant to many of the companies in the oil business. Let us assume that you were called in by the Montreal refiners to advise them as to whether or not they should sign a throughput agreement, what advice would you give them and what conditions, if you did advise them to do so, what conditions would you say they should require?

MR. LEVY: My first advice would be that they must follow national policy and that basically, until a national policy has been established they are entitled to follow whatever course they please, however inconsistent it may be. They

have every right to be inconsistent if they wish to. If there is a national policy for Canada my advice would be that they must follow it. It is just as simple as that.

MR. PATTILLO: Well, I followed that. Can you put any conditions?

MR. LEVY: Well, the conditions I would ask, I would see that my Government asks only certain things, that they would be reasonable about it. I would advise in making an agreement for throughput that it be balanced by a commitment of the people who own the oil to make the oil available.

MR. PATTILLO: Would you think also you would be entitled to say you want a substantial interest in the transportation field, the pipe line?

MR. LEVY: I would say I would consider it wrong to exclude the people who use the oil from an interest in the pipe line. If they are joining it enthusiastically I am sure they would, but I do not think you can per se exclude anybody or per se include anybody.

Let me put it this way, if you do have government interference as you may have to--I think you must do your utmost to minimize government interference as far as possible and not add to government interference.

THE CHAIRMAN: Would you be in favour of

applying that same principle in your country?

MR. LEVY: I am in favour but I do not think I can listen to it.

MR. PATTILLO: Mr. Chairman, I have no further questions that I want to ask Mr. Levy but I am going to suggest for your consideration that we change our policy;because of Mr. Levy coming here in his capacity as an independent expert I think perhaps we should have five minutes' break or ten minutes' break and any representative of any company here who has any question that he wishes addressed to Mr. Levy can then communicate with me or Mr. Patterson and we will consider whether the question has already been covered or not.

THE CHAIRMAN: Would that be satisfactory to you, Mr. Levy?

MR. LEVY: Mr. Chairman, certainly. Even if it were not I am sure I would have no choice.

THE CHAIRMAN: Oh, yes, you would have a choice. We will recess now for ten minutes.

---Short recess.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearings. Mr. Pattillo?

MR. PATTILLO: Thank you, Mr. Chairman. Mr. Levy, I have some questions. I know you will be delighted to know that. I am going to try and take them up under three headings. First, the situation in Alberta; secondly, the transportation questions; and thirdly, the national policy questions.

Now first regarding some of the questions arising out of Alberta. Am I correct in thinking that the introduction by Alberta of requiring companies that have been exploring and have found oil to turn back part of their reservation to the government and then the government putting those up, those lands up for sale or bid was a new innovation in the oil business which has subsequently been followed in other countries, such as in Venezuela?

MR. LEVY: Mr. Pattillo, to the best of my recollection the petroleum, the hydrocarbon laws in Venezuela always -- it was, I believe, passed around the end of the Second World War -- already permitted the sale of government reserves for bonuses.

MR. PATTILLO: But the practice was first begun in Alberta, and Venezuela did not do it until very recently I understand?

MR. LEVY: I gather that is correct, but with this qualification relating to my ignorance of many of these factors.

MR. PATTILLO: Would you care to comment on what effects that practice has on the development of the resources?

MR. LEVY: I think one effect is clear. Alberta made a lot of money. There are other factors, of course; the development of the resources. I think one should perhaps look at this problem in two ways. No. 1: There are areas that are completely wild-cat areas, and secondly, there are areas which are next to proven or semi-proven areas, and which are nearly proven at the time that the government in Alberta offers them for the first time for lease. Now, when you burden, so to speak, a wild-cat operation with a large amount of money you, of course, increase the cost of finding oil, and that applies when you offer proven or semi-proven areas. You would not expect that you would make a present to the company which happens to get that area.

So much for the general things.

The second thing is, of course, you give wild-cat areas to a particular company. When it finds something and goes to lease, it has to divide that area in a checkerboard fashion. That means you in fact give them right to begin with only half of the productive area they are ultimately going to find. It is hard for me to comment on the impact of this policy except to say that if you would leave the company in control of the whole area, the

company would be much better off. Mr. Lipton may perhaps say a few words also that follow from this policy with regards to the rate of development.

MR. LIPTON: I was not prepared so much as to offer any conclusions as to pose the question that this practice as compared to a practice of offering open concessions and open leases without the requirement that a portion of the land be turned back, may have some effect upon the rates of development in the two cases. I am not quite sure I am prepared to suggest how great that impact might be.

MR. PATTILLO: But it does, generally speaking, in your opinion, increase the rate of development?

MR. LIPTON: Yes. I would think so. Yes.

MR. PATTILLO: Perhaps at times when it is not advisable to do so having regard to the market that is available to you?

MR. LEVY: Mr. Pattillo, the whole system of conservation and allocating production has, of course, the effect of forcing developments under certain conditions, but this is one of the prices one has to pay in order to get a certain level of production. You would drill more than you otherwise would drill.

MR. PATTILLO: In your brief you make some comment about the rate of development that has been occurring here since 1954, and in the table

you draw the conclusion, (and I think you will find it in Appendix A, Table A6 in the text you have drawn the conclusion that development has been gradually dropping off, but I call to your attention Table A6 and do you agree that although there may be a decrease in the number of development wells drilled there has not been any decrease in the number of exploratory wells?

MR. LEVY: As far as the table goes, yes. I believe if you add, excuse me, I believe if you would add 1957 and 1958 you may see some impact. I have not got the figures in front of me. No, exploration has still continued at a reasonable pace, but you asked me this morning about all these ventures in the far north?

MR. PATTILLO: Yes.

MR. LEVY: And obviously exploration in the amount of the oil produced is a longer term proposition. If he would not handle exploration on that basis, he would lose out once and for all. There is a second factor: exploration you do not just start today on the basis of your whim but it is based on rights and other geological work, and therefore there is a problem involved in it. In general it seems, I do not know what the figures for the early 1958 are, but I think your questioner knows it better than I do.

MR. PATTILLO: Now, directing ourselves

for a few moments to the transmission of oil, would you please enlarge on the thought you expressed yesterday that the pipeline companies should be seeking to develop markets when they in fact are mere transporters and not owners of oil?

MR. LEVY: Yes. Mr. Pattillo, I think the pipeline companies should seek to increase their business, which is that of transporting oil. Therefore, I would expect it would continuously try to find out first, how it can improve its efficiency to improve its competitive position with existing customers. Secondly, how can it improve its efficiency and its rate position so as to capture new markets, and in this position of course you would expect that the pipeline companies would act independently, looking only at its transport interests and not be affected or handicapped either by producing interests or by refining interests. It would ultimately of course have to be in a position that it can get refineries to accept crude oil to its pipeline, and you would have to find producers which I do not think is difficult at the moment to deliver crude oil to the pipeline. As such, I would expect that an active business, which is so essential for the welfare of the country, would continuously try to find ways and means to increase its transport market.

MR. PATTILLO: Now, may I draw your

attention to the other chief means of transmission, namely tankers. Do you know whether or not there are internal arrangements made by the international companies regarding the use of tankers owned by themselves or through affiliate companies which in any way differ from the general practice which you were developing yesterday by quoting USMC minus rates?

MR. LEVY: I don't think I would call it, as such, an arrangement or practice, but I may perhaps describe to you a little bit how this thing is handled on the international scale. I think it was discussed yesterday that a large part of the tankers, say 40 or 50 per cent, is owned by the oil companies, international companies, and therefore is used by them as owned vessels in international trade. Another large part, 30 or 40 per cent, I guess, is under long-term charter, and the final part they have to cover on the spot market. That is the broad picture. Consequently, increasingly, varieties of international affiliates operating in various countries have acquired their own tankers to operate in their import trade, or have made their own charter arrangements. The United Kingdom owns a lot of tankers, and has chartered a lot of tankers, and is not dependent on tanker charters from its parent company or from anybody outside. The arrangement which is made has taken

place partly as a result of emergency considerations, partly national defence considerations, and partly mere business considerations. With this background in mind let me add another confusing element.

You have seen and have heard often tanker rates, spot rates, mentioned in the trade. These spot rates refer to tankers that are freely available at any particular point and time which are neither owned nor chartered on a long-term basis but they try to get a particular piece of business from Place A to Place B. The amount of tonnage available on the spot market is limited because such a large part is regularly owned and chartered by the oil companies, so we have a very small spot market, five per cent to ten per cent of the total tonnage available. The spot tonnage represents the tankers which carry all of the brunt of surpluses or deficiencies in tank tonnage: all of a sudden the demand is excessive and everybody tries to charter a tanker, and he goes to the spot market; all of a sudden the demand falls down and no spot charters are made.

You have violent fluctuations in the spot market, from USMC minus 17 to plus 200 as during the Suez crisis. During that crisis a tanker probably earned its total building cost in one or two trips. I think now it would probably lose the profit made during that time in another one or two trips. So that is the spot market as far as tankers are concerned.

In addition to that we have the time charter market where you charter a tanker for five

or ten years, and the charter rates for this kind of charter would tend to approach a figure which would recover the cost of the tanker, the interest and a reasonable profit for the owner. On that basis, therefore, you have a much more stable time charter market.

The figures we used of USMC minus 45 reflect more or less an assessment of the time charter market as it exists now and as it is likely to exist for the near, middle-term future, provided we don't have another Suez crisis on our hands.

If and when an affiliate has to charter a tanker from an oil company, the companies in general do not treat them as a spot transaction. Therefore some of the companies have set up -- British companies -- what they call an average freight rate assessment, which tries to assess at any particular point of time what is the average cost and rate paid for the total world tonnage, excluding government tonnage and other tonnage. That rate is used as a yardstick for charging the affiliates. This is not universally done by all the companies by a long shot, and it is not done in all periods. Sometimes the affiliate has its own tankers and sometimes it goes out and gets cheaper tankers and sometimes more expensive tankers.

However, this average freight rate sets

a kind of pinpointing yardstick which is then used in their tanker rates relationship to their affiliates. I would say that over the time this average freight rate probably stabilizes and averages out the violently fluctuating spot rates. However, it appears that over the time the long-term charter might be somewhat cheaper than the average freight rate has been in the past.

What the companies do get when they obtain a tanker from another company, I simply do not know, but I think you could find out.

MR. PATTILLO: Now, in your view, has the independent producer a useful place in the economy of the oil industry?

MR. LEVY: Definitely.

MR. PATTILLO: In the formulation of a continental oil authority such as you have described this morning, is it not essential for Canada to assume the same control by quotas as the United States has done before Canadian oil can form part of the domestic supply of crude oil to the North American Continent?

MR. LEVY: Mr. Pattillo, I would hate to say how far one would have to go. I think I am pretty certain in my mind, and if we do have a continental approach to the oil policy there have to be certain adjustments in each other's oil

policies in regard to many questions. I think it may even affect conservation, because you obviously cannot have one country without conservation entering the market freely and the other restricting its market, and whether a quota would have to be introduced, I am not one hundred per cent certain; it may have to, as we have in the States.

Many of the controls are undesirable from the point of view of the Montreal market, and I think we always, if we could, would avoid controls; I think that goes for everybody, except when they are in one's favour. But I just don't know how far they would go.

MR. PATTILLO: Now, in expressing the views that you have been expressing yesterday and today, do you consider that there is any obligation on the part of government, either provincial or federal, to take any measures which might alleviate the problems that some producers have got themselves in because they have been over-optimistic as to the future of the market for Canadian crude?

MR. LEVY: I don't like to see a government take any specific action for any specific sect or group of producers. If it means for the industry as a whole, I would say yes, but not for any particular section. Is that the question you asked me?

MR. PATTILLO: Yes.

MR. LEVY: I would say no.

MR. PATTILLO: Now, supposing the government did decide that it was in the national interest to take Canadian oil to Montreal and refine it there, do you see any danger, in carrying out such a policy, of the government being compelled to exercise control over the industry even back to the wellhead price?

MR. LEVY: In principle, no. Of course, if everything should go wrong, if all of a sudden the oil should not be found, and everybody behaved haywire, I would say so.

MR. PATTILLO: In other words, you are suggesting that if the industry wants to avoid control it act sensibly and reasonably and with self-restraint?

MR. LEVY: I would certainly think it will.

MR. PATTILLO: Thank you, Mr. Levy. Those are all the questions I wish to ask.

THE CHAIRMAN: Mr. Frawley?

MR. FRAWLEY: Thank you, Mr. Chairman. I am not one to gild the lily, so my questions shall be very short and very brief.

Mr. Levy, you said once or twice during your evidence yesterday that the cheaper crude oil was available to Montreal refiners, foreign crude oil, and then I made another note that there were

discounts on Venezuelan crude. Now, I made very brief notes, and I would like you to expand upon that.

MR. LEVY: Let me quote again the Fortune article where a well known independent said that no independent would dream of paying posted prices. He is quoted by name, as a matter of fact. I assume from that that it has been checked by him and that he knows what the independent pays.

The evidence I have is not evidence in any sense; it is indirect.

Secondly, you hear from time to time that some of the companies who have found oil newly in Venezuela, unable to find markets, have offered it at prices to quite a number of companies which are below those posted for crude oil in Venezuela. You hear from time to time that Middle East oil, on the basis of special arrangements and on the basis of long-term contracts, is offered at prices considerably below posted price.

I would guess that if you are willing to commit yourself right now long-term to supply contract -- let me put it this way, if I were an independent I would explore that most carefully before I would commit myself to a posted price contract.

MR. FRAWLEY: Thank you, Mr. Levy. You also called attention yesterday to the fact that in the United States the major companies have accepted the principle of voluntary restriction of imports and then you related that to Canada, as I understood, and you ventured the opinion that Canadian affiliates of those same companies in the United States would do the same, would be expected to do the same if the Government of Canada declared it to be in the national interest that the Montreal market should be given to Canadian crude. Now, did I properly appreciate what you said, Mr. Levy?

MR. LEVY: Mr. Frawley, I cannot talk for anybody but myself but having seen the splendid behaviour of your affiliates I could not for a moment envisage that anybody would go contrary to what is pronounced as national policy of Canada. I cannot talk for anybody but myself. That is as bad or as good a judgment as you like to take it.

MR. FRAWLEY: Do I take it that the first thing you would expect, the first thing would be the declaration of a national policy?

MR. LEVY: I say that we would not expect anybody in Canada to do anything that was against the national policy.

MR. FRAWLEY: Now, you have a feeling that the matter should be considered from the point of view of the good of the Hemisphere.

MR. LEVY: Yes.

MR. FRAWLEY: Well, I suggest to you that probably one of the stumbling blocks there is, and I do not want to be unfair, is that the Independent Producers Association of America probably does not give too much, does not have too much concern for the hemispheric approach.

MR. LEVY: Mr. Frawley, again I cannot talk for anybody but myself but from the record I have seen of the IPAA I have the feeling that the hemispheric approach is completely in line with their own thinking. I understand that one of the presidents of the association expressed that much in a speech in Canada not so long ago.

MR. FRAWLEY: Well, that is encouraging.

MR. LEVY: I can give you a reference, I have the speech here.

MR. FRAWLEY: It may be useful.

MR. LEVY: The address was by Robert L. Wood, president of IPAA to a group of Canadian government officials and oil producers in Calgary on August 23, 1957 and reads in part as follows:

"From an economic point of view, Canada and the U.S. without question are the two areas of highest cost in world petroleum development today. Our cost problems are more or less parallel. They are such as to make impossible competition with unrestrained, low-cost production from the Middle East."

..."It is significant that this policy (President Eisenhower's action of July 29, in establishing a program to stabilize crude oil imports into the U.S.) also represents a recognition of the importance of Canada's oil producing industry. It represents an encouragement, rather than a deterrent, to continued development of Canadian oil resources."

..."I dare say that neither the U.S. nor Canada could claim to be in the same league with operators in the Middle East, where a dry hole is an oddity and where production approaches 6,000 barrels per well per day.

"So when you consider the defense essentiality of a sound and expanding Canadian petroleum industry, and the fact that the industry here is in its infancy, hoping to expand in keeping with the dominion's economic needs forenergy, there is little doubt that the potential impact of a world surplus of oil is of as much concern to you as to operators in the U.S."

..."Our joint security depends on supplying our two countries with the world's most essential defense

energy, petroleum fuels. We are separated only by an imaginary line which we respect as an international boundary. For defense purposes, U.S. and Canadian oil could be considered as one source of supply, not two.

"The U.S., with Canada as one of her closest allies, has assumed a position of leadership in a world divided into two hostile camps. No nation could maintain such a position of leadership without an abundance of energy."

MR. FRAWLEY: Mr. Lipton, you were referring to some decisions of the Interstate Commerce Commission yesterday and I would like to put on the record the decisions that I think you were referring to. Were you referring to the decision known as Reduced Pipeline Rates and Gathering Charges as reported in 243 I.C.C., 115 the case Reduced Pipeline Rates and Gathering Charges reported in 272 I.C.C., 375.

MR. LIPTON: That is right.

MR. FRAWLEY: I thought perhaps it should be on the record for the information of the Commission's advisors who may want to look at them. At the same time I would put on the record one further decision which came in between those two cases and it is cited as Minnelusa Oil Corporation et al versus Continental Pipeline Company et al, 255 I.C.C., 41. Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you, Mr. Frawley. Mr. Levy, there are one or two minor questions I wanted

to clear up and I would like to discuss with you with regard to this hemispheric approach. Yesterday you mentioned a possibility that it may be necessary to licence refineries; it was just brought up by way of a comment: do you know of any country where refineries are required to be licensed?

MR. LEVY: Yes, for instance, in France and I would not be surprised if there were several other European countries where they have the system. In France the refineries, the industry started off with national defence considerations and I think the refineries were given a lot of privileges but in return for privileges they had to accept a lot of government regulations as part of the licence. I am sure the same applies to Italy and I think a search would probably find more.

THE CHAIRMAN: Is that a requirement in the United States at all?

MR. LEVY: Not that I know of, we have the voluntary import control scheme instead.

THE CHAIRMAN: I wonder if from the point of view of national security the location of refineries is very important?

MR. LEVY: Very much so, but I do not think it is restricted yet in the United States it has come up indirectly. I am sure that accelerated amortization has been granted in certain places so it is an indirect kind of inducement.

THE CHAIRMAN: I suppose Mr. Lipton is the man to speak to this one: in your discussion yesterday and again this morning, what great importance do you attribute to the size of the transportation system: what would be the diameter of the pipeline, the capacity of the line that you were thinking about?

MR. LIPTON: I do not think I would be prepared to suggest any particular size. I think the diameter of the line that the transportation indu- tion might select as most economical would depend on how much they planned to transmit in the future but I would be completely unprepared to give any diameter.

THE CHAIRMAN: Well, we are far more ignorant than you are. Assuming a 200,000 barrel per day line, what size pipe would it be,leaving room for expansion of the market?

MR. LIPTON: I am looking here for a relatively simple table which I have and on a 200,000 barrel per day I think probably something like 30-inch pipe would represent the most economical operation.

THE CHAIRMAN: Thank you. Now, we have been hearing a lot, not just yesterday and again this morning but previously,with respect to export of Canadian crude directly to the West Coast and mid-continent area. I appreciate very well, Mr. Levy, that you indicated thatthat is not the cure-all, that it could be unstable, maybe uncertain. Over the long run, what

quantities in toto would you feel could be arranged by way of export? Imperial Oil in their submission to the Commission have indicated or has indicated that probably by discussions, arrangements made within the industry itself and the producers and refiners that they could increase the take of Canadian crude by approximately 75,000 to 90,000 barrels per day. Then, we have had additional testimony with respect to the increased exports of crude primarily to the Puget Sound area. Now, when we are talking about export to the United States, what is the amount involved?

MR. LEVY: We have in our own report estimated about 200,000 barrels per day by 1960 and 300,000 barrels per day by 1965 but I would feel in view of what has been said here by some of the companies that have operations on the West Coast that we probably would have to revise these figures downward.

THE CHAIRMAN: That is what I am getting at. So if you take Canadian production today or the demand in Canada for Canadian crude as roughly 400,000 barrels per day exclusive of the 100,000 that is exported, if you have a total by 1960 of 200,000 barrels in the export field you still only get 600,000 barrels per day production in Canada roughly against a producibility as estimated to us of approximately 1,150,000 barrels per day by 1960 or 1961.

MR. LEVY: This would be in line with our thinking and we would have to revise our figures downward.

THE CHAIRMAN: Well, you say the situation is not wholly the result of recession alone. Would you agree with this, that the industry in Canada has more or less reached a certain level or a plateau due to the extraordinary work within the industry itself in our country within the past 10 to 12 years and we have reached a point where we are a self-sufficient nation in oil, only we are land-locked, is that not it?

MR. LEVY: I think that is a fair presentation.

THE CHAIRMAN: And in order to provide the incentive for further exploration and development on a scale that would be commensurate with what our geologists feel the producibility might be do we not have to lift that oil from the ground in order to provide the money with which that development and exploration is going to take place?

MR. LEVY: The money and, even more important, the hope.

THE CHAIRMAN: The hope, yes. Now, would you consider that if Canada decided to have Canadian crude go to the Montreal market that we would then lose our potential export market in the United States which we have been discussing?

MR. LEVY: In general to the extent that if

an export market in the United States depends on Canada's own strength I would see no reason why you should lose. Or, if there is any implication of retaliation, I would not believe that would ever apply in this kind of situation.

THE CHAIRMAN: Let me put it to you perhaps a little differently because I did not mean to even think of such a thing occurring but would not the same -- we can only reach the export market in the United States if we are competitive.

MR. LEVY: And more than competitive.

THE CHAIRMAN: Yes, and if we did go to Montreal and still endeavoured to export, would not the same conditions of competition apply?

MR. LEVY: Definitely, but let me answer it within a little larger framework: I believe Mr. Lipton has pointed out already right from the beginning that whenever you see reports of Canadian oil companies they expect in due course to reach a level of 2 million to 3 million barrels a day. I think in all submissions of all companies in all presentations there was always an implication that ultimately Canadian crude will reach that. You find it through the various reports. First and foremost, the nearby Midwest or West Coast market should be supplied; thereafter, eastern Canada.

I think that your basic problem

in restricted export markets are the pressures from world-wide surpluses of oil for the time being, at least -- and I would not like to put it for how long. Also, a large surge of new companies which have been potential customers of yours are going out into the foreign fields trying to find oil and therefore losing their customer interest in due course in Canadian oil. When you add all these factors together the question comes up, do you want to reverse this order which was implied in the previous submissions and turn first to eastern Canadian markets. Looking towards the long distance view it is my belief that our country, the United States, will become a a very, very substantial importer of oil. At that time I would feel a relatively large flow of Canadian oil will find its natural place among a much larger flow of imported oil, naturally, because at that time our companies in addition to figuring the profit motives, the profit dollars-and-cents position, as carefully as I think they do in general, will also like the comfort of a nearby safe source of supply when they have to take so much from far away sources. I think a responsible big company would try to increase a little bit of what it gets from its neighbours.

As a matter of fact, I would say that what you are hoping to do at Montreal, if you are doing it, is not closing the door but bridging the gap.

THE CHAIRMAN: No, I will come to that in a moment. Do you regard oil as any different kind of the world commodity than other commodities?

MR. LEVY: I am inclined to say yes.

THE CHAIRMAN: You regard it differently than say uranium?

MR. LEVY: I should of course ask you different than what? In its political implications?

THE CHAIRMAN: Well we have this concept of hemisphere, the hemisphere concept, let us call it for a moment. Why should that apply to oil as one commodity, and not also -- and let us look at the hemispheric concept, take the hemispheric concept -- with respect to uranium, lead, zinc, copper, coal, let us take coal?

MR. LEVY: I feel when you talk about uranium you are talking of course about the strategic material per se. I think that in that situation you have a great deal of hemispheric or even free world policy with regard to uranium export policy, purchase policy. You have a lot of things there which go very far into the uranium field.

As far as oil is concerned, I would put oil next on the list as far as strategic materials

are concerned, and I would say that attitudes and relations as far as security is concerned with regard to oil are very different from non-ferrous metals like iron, steel. I think you have a different feeling of urgency with regard to protecting yourself in all kinds of situations with regard to oil than you would have with regard to any other commodity I know of, except uranium -- if uranium is a commodity. Also, there is one thing sir: you can stockpile most of the materials you mentioned; you cannot stockpile oil. Certainly, oil is obtained from very insecure areas. Lead and zinc are not affected in the same manner. There are a lot of factors which I can add which give oil a special situation but I am sure people will disagree.

THE CHAIRMAN: Well I have difficulty in following the reason why the hemispheric approach should be applied prior to a nation making itself self-sufficient from its own resources.

MR. LEVY: May I perhaps again qualify that. I do not mean that any hardship should be suffered by this measure, but what I feel is this: if any emergency should occur I firmly believe that your fate is ours, and our fate is yours. I also firmly believe that we will have a situation again where the resources of this hemisphere, of this North American continent at

least, will be pooled to the best advantage of all members of that particular pooling operation. At that time, therefore, if you look exclusively at that time, you would be interested in the most economic and sound utilization of your resources, which you would like to plan for and arrange for and handle, if it can be done to the satisfaction of all concerned, prior to the emergency. If that cannot be done or if the arrangement that could possibly be done would not give your Canadian oil industry the hopes it would need, I would certainly feel you may have to add to these measures some such thing as the Montreal pipe line.

THE CHAIRMAN: I would suggest to you that in such an emergency economics would go right out the window.

MR. LEVY: That is right, at that time. I am thinking of logistics in minimizing tanker transportation; having oil available where it is the most difficult to get to during an emergency, landlocked places, and so on. Economics certainly would not matter.

THE CHAIRMAN: But then if you take the hemispheric approach, and if that is agreed upon to the exclusion of Canadian crude from the Montreal market, because that is what is implied in that, as I understand your reasoning, then you have as a country, or, at least, have you not as a country

debarred yourself from putting Canadian crude into the Montreal market and completely locked in your Canadian crude and stifled exploration except to the extent of the increase in the present market through natural growth, plus what you have been able to export?

MR. LEVY: Mr. Chairman, maybe I should make one point clear. I was asked a question, did I know of any country which is a large producer who could potentially supply all its own needs and still is one of the very largest importers, and I think I said no. I believe that this is a very unusual situation, and I do not think that anybody in the world could take issue with you if you tried to create for your own industry the outlets it needs.

The only suggestion I make in this Western Hemisphere arrangement is whether this is your immediate outlet. I mean, the outlet you need at this time. If it isn't, I would without hesitation feel that a country is entitled to seek relief for a basically sound industry. It is not a fostered industry, it is not something which is completely uneconomical or wrong to build up. The resource is there. It is valuable, and a lot of people make their living that way. A lot of people contribute to it. It is something which is there and it is valuable. I would feel that in such a situation a country

does not stifle that industry by keeping its own market excluded from it. It might be well if after you are through with this consideration of Western Hemisphere policy, if you ever consider it, you find all the United States might do for you is another hundred thousand barrels a day, and you just would find that this would not help and I think nobody in the world would argue with you if you gave your industry the encouragement it needs by using your own market potential.

THE CHAIRMAN: But conditions change, and export markets by themselves are uncertain.

MR. LEVY: That is right, you can't protect---

THE CHAIRMAN: If you have entered into a hemispheric arrangement, you have tied yourself to these export outlets, and restricted yourself from enlarging the use of your own source of energy.

MR. LEVY: I think what you have said is right. I would say also it is basically first and foremost a Canadian decision whether it wants to have this resource for itself. The problem only comes up location-wise and on a logistic basis; the United States would be a natural market, and secondly, in due course you give your industry encouragement.

THE CHAIRMAN: Just another phase of this: would we not as a nation be putting the Canadian consumer in Eastern Canada at the mercy of foreign crude prices with no chance for Canadian crude to compete?

MR. LEVY: You would at that time. This of course is the reverse of what your companies have been worried about.

THE CHAIRMAN: It is the reverse, but I think we should look at both sides of the coin.

MR. LEVY: You would, but the foreign producer at least, as long as there happens to be no crisis, happens to be slightly connected with some of your companies.

THE CHAIRMAN: I quite appreciate that, and I do not complain one iota about that, and I think that through that connection it has meant a great deal to the development of the industry in our country. At the same time, in any hemispheric management of supply it might well mean increased cost to the consumer in the Montreal market?

MR. LEVY: Obviously it could. I do not believe it would.

THE CHAIRMAN: It could?

MR. LEVY: There is theoretically no reason why prices should not go up.

THE CHAIRMAN: You just explained to us

that the prices for tankers in an emergency go up, and there would be the eastern consumer sitting there depending wholly upon importing this very expensive foreign crude, and the western producer of oil sitting on his oil unable to find a market.

MR. LEVY: Mr. Chairman, may I perhaps say again I would never suggest, I am not asking that the western producer be deprived of markets because of any Western Hemisphere policy. I think it would be a nonsensical proposition to make basically because a country which has a resource obviously looks, if it cannot go elsewhere, looks to its own market first.

THE CHAIRMAN: There are in any hemispheric concept, such as we are speaking about Venezuelan producer would -- after all that is his only hold -- want to maintain his export to the Montreal market, that is quid pro quo.

MR. LEVY: He would certainly be very interested in having the East Coast of North America available for market.

THE CHAIRMAN: The East Coast, yes. So that are you not throwing out the baby with the bath water when you go to the hemispheric approach first? You are losing your bargaining position. I do not say these are my thoughts. I want yours.

MR. LEVY: I understood Mr. Pattillo to

say yesterday that he takes the position this is what you will do, namely, you specify your own market requirements, and seek a satisfactory and binding policy which gives you all the relief you think you are entitled to. On that basis I believe you keep the bath water.

THE CHAIRMAN: That is what I have been trying to say. Well, thank you, Mr. Levy.

MR. COMMISSIONER HARDY: Mr. Levy, I wonder if you could tell us briefly what the general overall effect of the United States anti-trust regulations are at the present time on the international petroleum industry?

MR. LEVY: I think the first thing is the legal expenses are continuously very high. They are under indictment I don't know on how many cases, but certainly there is a big international cartel case opening. They have been charged with as is (and I don't know what else)agreements relating to the past market arrangements, and similarly -- but the effect in general on the industry is, it is hard to put in a few words. If you want to specify along what lines --- ?

MR. COMMISSIONER HARDY: Well, for example, would you understand from the operation of the legislation that it would prevent the integrated companies operating in Canada entering into a voluntary agreement to dedicate the Montreal

market to Canadian crude?

MR. LEVY: Sir, of course, I could give you no legal opinion, but I feel if the bosses of the parent companies would have to go to jail because of they do in the United States, I think they would not mind if their affiliate presidents would do the same. I just don't know.

MR. COMMISSIONER HARDY: Perhaps we could simplify a lot of this if I ask you one additional question. You have referred on several occasions to an article in Fortune, presumably the article by Gilbert Burke.

MR. LEVY: That is right.

MR. COMMISSIONER HARDY: In the current issue. I take it from your comment that you consider it to be a fairly authoritative article?

MR. LEVY: I would say definitely not. What I did was I used a quote of a man named in the article, and I used it in no other way. I used that quote because I assumed if they named a man and quoted what he has said, he has checked it.

MR. COMMISSIONER HARDY: In your experience with Fortune they would, I think?

MR. LEVY: They checked with me when they quoted me.

MR. COMMISSIONER HARDY: They did check with you?

MR. LEVY: Yes.

MR. COMMISSIONER HARDY: You are not suggesting that the reference to your own organization - there is anything wrong with that?

MR. LEVY: No. Let me add to that. I happen to know that the quote as it appears there was first different, and when then checked it was changed. I have a hunch it was checked. I worked for Fortune once, but I wouldn't like to take responsibility for any article that appears there.

MR. COMMISSIONER HARDY: On another subject, Mr. Levy -- you are aware, I think, that we have in Alberta a resource of petroleum in the tar sands which are going to represent some proven reserve of 250 million barrels, while the sheiks have 150 billion. I would suggest that the finding costs of that are going to be comparable with the finding costs in the Middle East.

MR. LEVY: Is that a suggestion or --

MR. COMMISSIONER HARDY: It would be a fact, wouldn't it, that the finding cost --

MR. LEVY: They have been found to be, yes.

MR. COMMISSIONER HARDY: In the same category?

MR. LEVY: Yes.

MR. COMMISSIONER HARDY: And you would have, perhaps, substantially more development costs with the tar sands, but they would be lumped in with lifting costs. The thing that worries me is

that if you do a little arithmetic with the figures we have here and work in with them the figure of an average dollar profit plus or minus 30¢ a barrel, if we take a dollar and add on a little bit for royalty, we don't have very much left to deliver this oil anywhere. In other words, you may develop a very nice process for circulating the oil, and it has been assumed in the Province here for quite a number of years that the problem with the tar sands was a technical problem, separating the oil from the sand. But on the basis of the figures we have here, I would say that is not the case at all, that there are not enough cents left to produce it, separate it and to market it. We have the same problem there as we have been discussing here of natural economics versus what we might call business considerations.

MR. LEVY: That could very well be, sir. I do not know enough about the tar situation, but from what you explain I think the consequence as such may be relevant, on the basis of present technological developments, which, of course, may change.

MR. COMMISSIONER HARDY: One final question. Perhaps it should be directed to Mr. Lipton. He emphasized earlier this morning that perhaps the major consideration in our problem here in Canada was transportation of oil, and we have heard of transportation of other things in Canada,

transportation in general. But is that not a serious enough matter that you would be justified in making it the subject of control of, say, a national energy board, to prevent uneconomic transportation systems or facilities in the nature of pipelines that are too small being put in?

MR. LIPTON: I would certainly agree that the subject has sufficient significance to the development of national resources so that it warrants the consideration of your Federal Government. I would not say whether it would fall within the jurisdiction of a national energy board since I do not know under what circumstances such a board would operate and what is congenial and what is not congenial to the processes of Canadian politics.

MR. COMMISSIONER HARDY: Thank you very much.

THE CHAIRMAN: Mr. Levy, we thank you and Mr. Lipton very, very much for coming as free agents and giving the Commission the benefit of your vast and varied experience in the oil industry and world oil affairs. We have a very difficult problem facing the country, I think, facing the industry and, last but not least, facing this Commission. I only wish that we can offer you workmen's compensation and some assurance against the hazards of being a Commissioner, but you can

join us for the next few months, we will say, whatever period of time may be necessary to unravel this tangled skein.

The evidence or testimony that you and Mr. Lipton have given us yesterday and this morning will be, I assure you, most valuable, and the Commission will certainly give it a great deal of thought and consideration. We deeply appreciate your coming. We had the opportunity of reading your report which you made in February this year, and I can assure you that you have not disappointed us with the light which you have been able to throw on some aspects of this difficult problem.

Thank you very much, Mr. Levy, and Mr. Lipton.

MR. LEVY: Thank you very much, Mr. Chairman. I need not tell you how much we appreciate the confidence you have placed in us and the treatment you and Mr. Pattillo have extended to us. We deeply appreciate the honour and confidence you have placed in us.

THE CHAIRMAN: Mr. Pattillo, I don't know what our schedule is. I believe there is a delegation from the Crow's Nest Pass Towns; is that correct?

MR. PATTILLO: Yes. The question is whether we should take up that brief before or following lunch. My suggestion would be that we give ourselves a few minutes extra lunch.

THE CHAIRMAN: We will now adjourn until 2 o'clock, gentlemen, at which time we will take up the submission of the Crow's Nest Pass Towns.

---Whereupon the hearing adjourned at 12.10 p.m. to resume at 2 o'clock.

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Submission of

THE JOINT CROW'S NEST PASS TOWNS COMMITTEE

APPEARANCES:

N. E. Aboussafy	Mayor of Coleman
J. White	Mayor of Fernie
E. Goulding	Mayor of Bellevue
D. B. Young	President, Chamber of Commerce

MR. PATTERSON: Mr. Chairman, we will now proceed with the submission by the Joint Crow's Nest Towns Committee. I would ask the submission be marked CC-13-1.

Mr. Aboussafy, who is the Chairman, I believe, of the Committee and the Mayor of Coleman will first of all introduce the gentlemen who are with him.

MR. ABOUSSAFY: Mr. Chairman, I have with me here Mayor White of the City of Fernie; Mayor Goulding, the Town of Bellevue, and President of our Chamber of Commerce, Mr. Young.

I would like to say at the beginning that we certainly appreciate that you have given us time for this hearing. Our problems are big to us. The points we are going to present are not technical but are dealing with the people who live in our district, so we really appreciate your consideration.

Since the decisions of the Royal Commission

on Energy hearings can affect the very existence of the towns in the Crow's Nest Pass, we, a committee representing the citizens of the City of Fernie, the Towns of Coleman and Blairmore, the Villages of Frank, Bellevue and Lundbreck, and the Improvement District of Burmis, have been following with keen interest the deliberations of your meetings as to the desirability of the export of natural gas.

If these communities are to continue there must be additional industries to supplement the revenue from the declining coal trade. Throughout this area there already exists all of the municipal machinery and social services necessary to industry. A quick favourable decision by your Commission could stabilize the already shaky economy of this region. An adverse decision could ruin what was once a prosperous area, one that has made an appreciable contribution to the Canadian economy. It may appear that the rise or fall of the Crow's Nest area is of small consequence to the national prosperity, but we must remember that Canada's economic welfare is made up of the aggregate welfare of individual regions.

We are vitally interested in the export of gas from this area. Our geographic location is such that adjacent gas fields must transport their products through the Crow's Nest Pass to

prospective markets. These transportation facilities, plus proposed processing plants could provide us with the necessary revitalizing factors. As the gas discovered in these fields is a sour gas, it must of necessity be relieved of its undesirable elements, which means the construction and operation of one or more processing units. Supplementary industry of this type is essential if this area is to continue.

The successful exportation of clean natural gas would therefore mean that several hundred miles of pipe line would be constructed, plus the necessary gas processing plants, plus one or more pumping stations. The combined results of all this new work would directly and indirectly add very considerably to the general economy of the Province, and most important of all, spur renewed efforts for the discovery and exploitation of the gas reserves in the Province.

The Crow's Nest Pass area is particularly interested in this project because of the following reasons:

1. The Crow's Nest Pass was originally developed, and for the past fifty years has been maintained, on an economy based solely on coal mining.

2. The extent of coal mining operations is now only a shadow of their former size and this naturally has adversely affected the economy of the

general area, as has been the case in other coal mining regions. The following statistics relating to coal production in the Province will give some idea as to the extent of economic reduction suffered by the Crow's Nest Pass in recent years.

Coal Production	1949	-	8,616,983 tons
	1957	-	3,155,354 tons;

and should the indications continue in 1958, this may be almost cut in half.

In the Coleman area alone, payrolls have dropped from $3,615,216 in 1952 to $959,247 in 1957, with a further reduction expected in 1958.

The number of men employed in Coleman in 1952 directly connected with coal was in the neighbourhood of 1250, as against 241 in 1957, and is presently less than 200. Similar figures from the other towns in the Crow's Nest Pass show even greater reductions. All of which classifies this area as a labour distress district of the greatest magnitude.

3. The successful completion of gas export, and the processing of sour gas, would entail extensive pipe laying and building construction in the area immediately west of Coleman. It is our understanding that plans are presently underway for an early commencement of these operations.

4. The Crow's Nest Pass area stands ready to assist in any way possible the advancement of this

project.

The distressing labour situation is shown by the fact that 1316 men are in receipt of unemployment benefits, and 971 of these men are totally unemployed. Among these men are classified help such as welders and mechanics, plus a ready supply of common labour. Living facilities are also available for any and practically all the labour force required in the said project, plus the fact that we are well equipped with good schools and hospitals. Trans-continental railroad facilities are already established.

The impact of this proposed project would be considerable and of great value to the general economy of the Province. It would be of particular interest to the economy of the Crow's Nest Pass.

The added payrolls would enable the towns and their residents to meet and maintain the taxation demands to cover the costs of schools, hospitals and other municipal expenses. The new payroll would in some measure replace the reduction due to the rapidly declining coal business.

We are fully convinced that the exportation of gas is a necessity for the continued development of our oil fields and the maintenance of our Provincial economy. Being of such mind, we can without hesitation recommend that you bring in a favourable decision as to the export of gas through

this area. This will relieve the present economic suffering of many in the Southwestern part of Alberta and the neighbouring area of B.C.

If this project shows promise of beginning immediately it will help to keep these men and their families in their low cost homes and it will eliminate the migration to other congested areas, creating a further hardship on other people and other municipalities. It will also eliminate necessary relief measures by our Governments.

The Crow's Nest Pass region is rich in other natural resources, and establishment of a gas processing plant may provide the nucleus for other forms of industry. If such a plant were established, the inevitable visits by industrialists, engineers and financiers would give these people a first hand knowledge of the potentialities of this area.

We of the Crow's Nest Pass have had the unfortunate experience of economic suffering due to having unlimited reserves of unwanted coal. Great Britain is calmly announcing the commercial development of hydrogen power by 1960. Are we again to suffer because of having unwanted reserves of natural gas? While a long range fuel conservation policy is both desirable and necessary, the interests and welfare of present generations should not be entirely disregarded. Our natural resources should

be utilized to the best advantage of our citizens. The present export of gas will best serve that purpose.

We strongly urge that your deliberations be governed by both economic considerations and the alleviation of further human suffering in this area.

In conclusion, please accept our thanks for giving this brief your favourable considerations.

Mr. Chairman, if I may be permitted, our Committee has decided to ask you this question, that if gas export is to be recommended by your Commission because of what this will do to the unemployed people in our area, this proposed project in the Crow's Nest Pass should be given consideration.

THE CHAIRMAN: Thank you, Mr. Aboussafy. Mr. Patterson?

MR. PATTERSON: I have no questions, Mr. Chairman, thank you.

THE CHAIRMAN: Mr. Frawley?

MR. FRAWLEY: I have no questions, Mr. Chairman.

THE CHAIRMAN: Well, we shall certainly take a careful look, within our terms of reference, to the question which you have just put to us, sir. It is very distressing in our country to find a community or series of communities suffering such

economic problems in this land of ours which is full of plenty. We realize the problem, I think, that surrounds and besets you, and while we can't promise what we may recommend will be the great thing to alleviate your economic distress, I do hope that it does come within our period.

Thank you very much. We appreciate very much you gentlemen taking the time to come before us today.

MR. COMMISSIONER HARDY: I wonder, Mr. Chairman, if someone in the delegation could tell us roughly how many jobs have been created by the gas treating plant at Pincher Creek?

MR. ABOUSSAFY: I think we looked into this; I think the same question came up many times. It is not a complete solution for the Crow's Nest Pass area to have just this plant there. It will have about 60 steadily employed people after it is finished, but it will give us a breather, say, two years' construction. After all, we all have hopes, we are all optimistic, so therefore after two years we hope that something else will turn up which will help to make the area survive. In the meantime, I think they could employ between 300 to 500 people during the construction period.

Is that the answer you are seeking, Mr. Hardy?

MR. COMMISSIONER HARDY: Well yes, there are two aspects of it as you point out. There is the construction aspect which gives you a continuing period, but even 60 permanent employees in Pincher Creek I would think is quite a substantial number.

MR. OBOUSSAFY: It would be lots more than that. It would have 150. It is a much bigger unit. It is built into four sections. We hope that ours will become as large. You see, they are discovering gas there continuously in those mountains and near the foothills.

MR. COMMISSIONER HARDY: How close are the gas lines now to the towns that are represented by your group?

MR. ABOUSSAFY: It is Savannah Creek area which is the one closest to the Coleman plant. We are the ones closest to it. I think it is about 50 miles.

MR. COMMISSIONER HARDY: So you are thinking definitely in terms of a plant that is projected for Coleman?

MR. ABOUSSAFY: That is right.

MR. COMMISSIONER HARDY: Thank you very much.

THE CHAIRMAN: Well, thank you very much gentlemen. This is very good. We appreciate you appearing here today.

MR. ABOUSSAFY: We thank you very much, Mr. Chairman. We certainly appreciate it.

Submission of

The Research Council of Alberta

The Athabasca Oil Sands

APPEARANCES:

Dr. D.S. Pasternak

Dr. G.W. Hodgson

Dr. K.A. Clark

Mr. M.A. Carrigy

Dr. N.H. Grace

MR. PATTERSON: Mr. Chairman, the next submission relates to the Athabaska Oil Sands and is a brief by the Research Council of Alberta which I would ask be marked as CC-13-2. Dr. Grace of the Research Council is here. I would like him first of all to introduce the gentlemen withhim and then to proceed with reading.

DR. GRACE: Mr. Chairman, I have with me Dr. Clark on my right. I think he should be known as Oil Sands Clark in Alberta. On my left is Dr. Pasternack, also Council staff who is not quite as far back in oil sands experience but has had a great experience in it. To his left is Dr. Gordon Hodgson who has had a number of years of oil sand experience and to his left is Mr. Carrigy, our most youthful addition to the oil sand interest who has

now had about a year of geology and we are very glad to have him with us. Now gentlemen you have here a copy of our brief.

Introduction: The Athabasca sands are a large reservoir of crude oil located in northern Alberta. The purpose of this brief is to describe the oil reserve in relation to the other reserves of petroleum in Canada and to give some indication of the development of the resource in the over-all picture of energy in Canada.

A description of the nature of the oil will be given, followed by a section dealing with anestimation of the in-place reserves. Methods of producing the oil will be discussed, leading ultimately both to an evaluation of recovery factors and to an indication of costs of production.

A final section will discuss the special place of this major oil reserve in the long-term outlook when essentially unlimited amounts of nuclear energy will become available.

Terminology: Frequently the oil sands were called "tar sands" or "bituminous sands" and the oil was called "tar" or "bitumen", as these terms were simpler and indicated to the layman the nature of the hydrocarbon material. Since initial coking of the oil yields about 85% by volume of a very fluid oil which is similar to the petroleum obtained from oil wells, the tendency latterly has been to refer to the resource as "oil sands" and

the hydrocarbon content as "oil". This trend will be followed in this brief.

Until recently literature dealing with the oil sands referred to them as Athabasca oil sands or McMurray oil sands, the former referring to the general location of the deposits along the Athabasca river, and the latter to the geological formation in which the oil occurs. Both terms referred to the same deposits. In this brief the term "Athabasca oil sands" will be used.

Inspection of the Oil: The Athabasca crude oil is a heavy petroleum hydrocarbon, black in color. Because of the unusual size of the Athabasca oil reservoir, the unusual position of the reservoir and the somewhat extreme nature of the crude oil, there has been a tendency to regard the oil as something different from crude oil, as evidenced by the terms "tar" and "bitumen". There has also been a tendency to class the Athabasca oil sands with other non-petroleum hydrocarbons such as the oil shales of Canada and the United States. The chemical and physical nature of the oil and the geological conditions under which it occurs show, however, that it is a petroleum hydrocarbon and should be treated as such.

In the general spectrum of crude oils ranging from very light crude oils to very heavy

crude oils, the Athabasca crude oil is at the heavy extreme as indicated by the data in Table I which show the inspections for a range of crude oils found in western Canada. It is important to note in the series of oils that the gravity decreases from light to heavy, the sulfur content rises from nearly zero to about 5%, the viscosity and carbon residue and distillation residuum increase, and the gasoline production on non-destructive distillation decreases. It might be added that the nitrogen content of the Athabasca oil is about 0.4%, and the oxygen content by difference is about 1.2%. The carbon-to-hydrogen ratio - of importance in exhaustive refining - is about 8 to 1, and the calorific value is 17, 910 B.t.u. per pound.

TABLE I

INSPECTION OF THE ATHABASCA OIL

RELATIVE TO OTHER CRUDE OILS OF WESTERN CANADA*

	Joffre	Pembina	Redwater	Bantry
Gravity, °A.P.I.	41.5	36.8	35.4	22.8
Sulfur, wt.%	0.04	0.24	0.32	2.44
Viscosity, S.S.U. at 100° F.	38	46	43	172
Carbon residue, wt.%	0.9	2.1	3.5	6.5
Total gasoline & naptha, vol.%	31.8	28.0	29.2	16.6
Residuum, vol.%	25.4	30.1	28.0	44.3
Well-head price, $/barrel	2.62	2.61	2.63	1.65

	Marsden**	Athabasca
Gravity, °A.P.I.	13.9	8
Sulfur, wt.%	3.51	5.0
Viscosity, S.S.U. at 100° F.	5,330	100,000
Carbon residue, wt.%	6.9	13
Total gasoline & naphtha, vol.%	-	-
Residuum, vol.%	56.9	63.1
Well-head price, $/barrel	1.10	-

* Data for all the fields, except Athabasca, are taken from Seely et al (1957); data for well-head prices are from the Department of Mines and Minerals, Edmonton.

** One of the general Lloydminster group of oil pools.

In-Place Reserves: It is the purpose of this section to give an estimate of the in-place reserves of oil in the Athabasca oil sands. In subsequent sections, following a discussion of production methods, recoverable reserves will be estimated from the in-place reserves by applying indicated recovery factors.

Before the following estimates of the value of the McMurray formation as a petroleum resource can be appreciated, it is necessary to provide as a background a short historical account of the different environments which have influenced the deposition of its strata. This will show how and where the different types of sediment were deposited (especially those favourable for the accumulation of oil) and will also help in visualising some of the basic problems facing anyone contemplating commercial development of these deposits.

General Geology: The sedimentary beds known as the McMurray formation were deposited on an erosion surface developed on nearly horizontal limestone strata of Devonian age. The thickness of the formation is variable and is controlled by the relief of the erosion surface which it covers; it is thickest (400 feet or more) over the Devonian lows and is thinnest, or in some cases absent, over the highs. Before the beginning of McMurray sedimentation the Devonian surface was above sea-level and in this area was virtually a plain, the highest hill being only 600 feet above the river and lake floors. Where the erosion surface can be observed in outcrop - e.g., along the lower Athabasca River valley - the relief is of a much lower order, varying somewhere between 50 and 100 feet.

Directly above the limestone outcrops remnants of a once continuous clay-soil profile may be seen, in places, beneath the McMurray and later sediments.

The early history of deposition of the McMurray formation sediment is one of gradual infilling of the topographical lows -- such as river valleys, lakes and swamps -- because of gradual subsidence of the land surface. In the river valleys coarse-grained porous sands were deposited, and silty alluvium and clay were washed

into the lakes and swamps, some of which were sites for the accumulation of plant remains, which now form lignite or coal beds. Once the deep channels had been filled the sediment began to spill out and be deposited over wider areas, drainage became poor, and, eventually, the whole area was covered by a shallow lake or series of lakes. The streams draining the low-lying Precambrian surface to the east continued to contribute sediment to the area, building out small fan-shaped deltas into the lake. The lake-water at the river mouth was apparently sufficiently agitated to keep the finest particles in suspension and allow them to be carried away to be deposited in quieter water elsewhere in the lake, leaving behind in the delta poorly sorted but clean fine-grained micaceous quartz sands. Driftwood and other woody material brought down by occasional floods, floated into shallow near-shore locations and were preserved in the sandy beds. In local swamps of limited extent, sufficient vegetable matter accumulated to ultimately form the lenticular beds of coal and lignite now visible in outcrop. This phase of sediment deposition ended when the seas which has been steadily encroaching from the north as subsidence continued, reached the lake level and the two bodies of water began to intermix, and gradually the lake became a near-shore lagoon. Strong currents then reworked and

spread the surface sediment thinly and uniformly over large areas; subsequent deposition took the form of thin horizontally-bedded strata of sand and micaceous silt, containing a brackish-water fossil fauna. The upper 60 feet of the formation is of this type. The final episode in the history of the McMurray formation is the complete inundation of the area by the sea and the start of a new sedimentary regime responsible for the deposition of the Clearwater formation. This change can readily be recognized in the field by the presence of a thin green glauconite sandstone bed at the base of a thick (275 feet) shale and sandstone sequence carrying fossils of Lower Cretaceous age.

At some time since the building of the McMurray formation it was saturated with the oil now under discussion. However, the origin of the oil is not clear, and there are two schools of thought regarding the topic. Ball (1935) and Hume (1947), among others, favor the near-source hypothesis. They consider that the oil in the McMurray sands originated in or near its present location and was deposited contemporaneously with the McMurray formation, and that the oil is not a residual product left by evaporation and oxidation of a lighter oil but is a "young oil that has never been geologically gently cracked or decomposed into lighter or heavier products." In other words,

they consider that the oil had a Lower Cretaceous origin.

Sproule (1938) and Link (1951), among others, favor a Devonian origin and consider that the oil escaped through fissures and fractures from the underlying coral-reef reservoirs of Upper Devonian age, and that this occurred primarily during -- but also possibly subsequent to -- the deposition of the Lower Cretaceous formation.

Recent chemical studies (Montgomery, 1951; Scott et al, 1954; Hodgson, 1954; Hodgson and Baker, 1957) based on trace components of the Athabasca oil and other more conventional oils of western Canada have shown considerable support for a Lower Cretaceous origin for the Athabasca oil.

In every case, whatever the origin, the crude oil gives products on refining very similar to those obtained by refining normal crude oils (Sterba, 1951).

Since Cretaceous times the area has emerged above sea-level and has been subject to sub-aerial erosion. During Pleistocene time it was buried beneath a continental ice-sheet. As the ice melted the water level in the Lake Athabasca basin became deep enough to cover most of the area, and in this lake a variable thickness of fluvio-glacial sediment (seldom exceeding 50 feet) was deposited. This blanket of later sediment has

made mapping of the underlying Cretaceous strata difficult, and nearly all outcrops of Cretaceous beds are confined to the post-Pleistocene river valleys.

Economic Geology: From the foregoing account of the geological history it can be deduced that the sediments most favourable for the accumulation of oil are the coarse-grained porous sands deposited in the old river channels, and the fine-grained cross-bedded winnowed micaceous quartz sands deposited in the fresh-water lake environment. It will also be apparent that these clean beds of sand will be present as thick wedges of somewhat limited lateral extent, with silt and clay beds of varying thickness occurring at intervals throughout any vertical section. Correlation of strata, even between closely-spaced wells, has not proved possible (Hume, 1947). This means that reserves can only be proven by intensive drilling. In view of this, estimates based on exploratory drilling patterns where there is more than half-a-mile between holes can only provide evidence that large areas are not underlain by continuously rich oil-sand beds. Table II shows the nature of the oil-sand resources.

TABLE II

McMurray Oil-Sand Resources

	Nature of resource	Estimated quantity of oil present
A.	Proven by closely-spaced drilling and sampling -- Mildred-Ruth Lakes area; ref., Report 826, Federal Bureau of Mines, vols. I, II, III.	1 billion barrels (Recoverable by surface mining)
B.	Outlined by drilling and sampling	2 billion barrels (Probably suitable for surface mining)
C.	Maximum amount of oil present in beds of the McMurray formation over an area of 2,500 square miles where it has been proved to exist by widely-spaced exploratory drilling and sampling.	100 billion barrels. (Exploration depends on advances in technology to create favourable economic circumstances)
D.	Amount of oil present in the balance of the McMurray formation where, from geological extrapolation supported by occasional drilling and sampling,	100 billion barrels. (Exploitation depends on advances in technology to create favourable economic circumstances)

it is thought to be present
and to be of same thickness
and saturation as at McMurray.

From our present knowledge of the geology and topography, it is possible to outline and map the economic potential of various parts of the oil-sand area as shown in Fig. 1. It should be noted that oil-saturated beds have not been observed east of Range 6 between Townships 89 and 99, and that outcrops of the McMurray formation in the valley of the Clearwater river east of this range show no sign of having been saturated with oil at any time.

In summary, the in-place reserves of crude oil in the Athabasca oil sands may be as great as 200 billion barrels. The next point to deal with is the matter of recovery methods, with their specific recovery factors leading to an estimation of the recoverable reserves.

---(For Economic Geology Map of McMurray Oil Sands see page following page 12 of brief.)

Production Methods: Athabasca crude oil cannot be obtained in the field by normal production methods because of the high viscosity of the oil and the lack of effective reservoir drive. Successful production methods must, therefore, rely on one of two principles. Either satisfactory

subsurface drive mechanisms must be developed to move part or all of the oil to production drill holes, or the oil-saturated sands must be mined and treated in a surface plant for recovery of the hydrocarbon content.

To provide the proper basis for a discussion of subsurface methods, attention is now directed to a more detailed examination of the sand reservoir in which the oil occurs. The oil sands are an aggregate of sand, clayey material, oil, and water. The sand portion consists mainly of quartz particles of 50 to 200-mesh size and smaller, but minor amounts of other minerals such as mica, rutile, ilmenite, tourmaline, zircon, spinel, garnet, pyrite, and lignite are also present. Although silt and clay occur interbedded with the oil sands, they also represent a normal constituent of the oil sands. Ironstone modules of all sizes up to eight inches in diameter show up in the oil-sand beds, especially in the southern part of the deposit.

Good-grade freshly-mined oil sand usually contains about 2 to 5 per cent water and 10 to 17 per cent oil by weight, the balance being mineral matter. As in all sand reservoirs, a portion of the water in such oil sand appears to be present as films around the particles of mineral matter, thus preventing direct contact of the oil with

most of the mineral surfaces. It is this fact which facilitates the removal of the oil from the oil sand in the hot-water washing process. The balance of the water is probably present as a disperse phase in the oil.

The porosity of good-grade oil sand is high, varying between 35 and 45 per cent, and the total liquid saturation -- oil and water together -- varies from 85 to 100 per cent. Good-grade oil sand weighs about 125 pounds per cubic foot (Clark, 1954). Permeability of the sand is high -- about 1 to 10 darcies for a good-grade oil sand.

The temperature of the oil sand in situ, at some distance from the surface, is around 36 to 40 degrees Fahrenheit. At this temperature the oil is extremely viscous, and the oil sand very firm and capable of supporting substantial structures. When the oil sand at the face of a quarry is warmed by the summer sun, a small power shovel can dig into it readily, but only until the warmed surface layer is removed.

(a) Subsurface Methods:

Returning to the consideration of subsurface recovery methods it should be observed that fundamental to them all is the requirement that the oil flow to the production hole. The oil can be made to flow by applying a very high

differential pressure, by reducing the viscosity of the oil, or by moving only the less viscous components which, incidentally, are the most desirable components. The most obvious way to reduce the effective viscosity of the oil is to heat it; the next most obvious way to reduce the viscosity is to dilute the oil with a suitable solvent. Having reduced the oil viscosity, the differential pressure requirements for moving the oil are reduced to reasonable values.

Several major oil companies are investigating ways and means of accomplishing heating, increased pressure, and preferential selection of the lighter components of in-place reserves of heavy crude oils. For example, the Magnolia Petroleum Company (Kuhn et al, 1953) has published results of a subsurface combustion technique in which heat is produced by burning some of the oil, resulting in an in-place cracking of the crude oil, thus yielding a distillate that moves ahead of the flame front and supplies heat to make the viscous oil more fluid; at the same time the condensing oil vapors combine with the viscous oil and assist it in becoming still more fluid. Eventually the warm diluted oil begins to reach the production holes.

The investigations of the combustion recovery methods are still in their early stages.

Field testing of the methods in the Athabasca field have not been reported, but there is good reason to believe that the methods are applicable there. One very important feature of the process is that it is self-sustaining with respect to fuel. When a viscous oil is heated to a temperature which is high enough to produce destructive distillation, a coke residue is left behind. Once started, the underground combustion derives much of its heat from the burning of the worthless coke residue which remained on the sand. Another important feature is that overburden is desirable since it permits the use of pressures in proportion to the overburden thickness.

Areas of Athabasca oil sand composed of interbedded oil sand and shale having an average oil content of about 6 per cent, together with beds of better-grade oil sand, should be suitable for the application of such a subsurface method of recovery.

Experimental studies have not been carried far enough to permit an accurate estimate of a recovery factor for the subsurface combustion recovery methods. However, for the purpose of establishing minimum recoverable reserves from that area of the oil field particularly amenable to these methods, a factor of at least twenty per cent would appear reasonable. For comparison purposes

it might be noted that the primary recovery factor established for a conventional black oil field such as Lloydminster is about 5-10 per cent.

The second major subsurface method that is being rapidly developed in both the United States and Canada at the present time for the beneficiation of marginal production is the miscible-phase flood. In a sense this is a variation of the well known water flood, and it differs only because of the use of several oil field fluids -- usually propane and natural gas -- prior to a conventional water flood. The most important features of the miscible-phase flood is that the reservoir is flooded with a liquid in which the oil is readily soluble. The oil in the reservoir that would normally be by-passed in a water flood is taken into solution for the most part and carried along to the production well. Consequently, a gas flood followed by a water flood is carried out to recover as much of the oil and propane as possible. Recovery factors of well over 60 per cent have been reported for the miscible-phase flood in various tests (Koch et al, 1957).

The applicability of the miscible-phase flood to the Athabasca oil field has, apparently, not been studied. It is reasonably clear that the flood would not be very successful as it is

presently being used elsewhere, because of the high viscosity of the crude oil and the relatively poor cap-rock in the field. Nevertheless, it is reasonable to believe that the method could be modified to fit the particular situation in the Athabasca field. A recovery factor of about twice that for the combustion method, say 40 per cent, might be taken, assuming ultimate application of the method to this situation. The area of the field to which it would be applicable would be appreciably smaller than for the combustion methods. Probably the ultimate recovery of oil from the field by the two methods would be much the same.

It is important to note that in the foregoing discussion of recovery methods, attention has been paid only to the technical feasibility of achieving production of oil from the Athabasca oil field. No consideration has been given to the costs of production. At this time no cost estimates can be given other than to note that it is very unlikely that the subsurface methods could produce a crude oil that could compete directly in cost with oil from a flowing or pumping well in a conventional oil field. At the moment the combustion method would appear to be much more attractive than miscible-phase flooding from a cost point of view.

(b) Surface Methods:

During the last thirty-five years most of the efforts expended in the development of the Athabasca oil sands have been directed toward locating areas of the field that were amenable to surface treatment for recovery of the oil and toward developing suitable surface methods. For the purpose of this discussion, surface methods are taken to mean processes in which suitable portions of the oil reservoir are mined, and the mined "ore" treated in some manner to separate the oil from the mineral aggregate.

Of the two general types of mining processes, strip mining appears to be by far the most likely process although some study has been given to underground mining. Assuming that open-pit mining is the only mining method available, it is possible to define the reserves in place attainable by this method. It is considered economical to remove up to one foot of overburden (by strip mining or hydraulic sluicing) for every two feet of good-grade oil sand lying underneath (Blair, 1950). The Mildred-Ruth Lakes area previously mentioned falls into this class as it has an overburden ratio of one foot of overburden to 2.6 feet of oil sand. The indicated reserve here is about one billion barrels. Core drilling already carried out has indicated areas along the

banks of the Athabasca river and tributary streams from which sufficient oil sand could be obtained by open-pit mining to produce about three billion barrels of oil.

Four methods of oil recovery from oil sands obtained by open-pit mining have been proposed, namely solvent extraction, hot-water washing, cold-water washing and fluidized retorting.

Although solvent extraction would be effective, there is grave doubt that solvent losses could be held to a satisfactory minimum when handling huge quantities of solids.

The hot-water washing method, as developed by the Research Council of Alberta, operates at around 175° F. It is fully understood (Pasternack et al, 1951) and it has been shown to have considerable versatility in many respects. The process was satisfactorily demonstrated in the summer of 1949 during the operation of the pilot plant at Bitumount. The oil is recovered as an oil froth which usually contains around 30 per cent water and about 5 per cent mineral matter. Augmenting the primary yield by passing the underflow from the water settler through a conventional flotation cell enables a recovery of at least 95 per cent of the oil. A very important feature of the process is that no reagents are required - that is, no diluent, alkali or wetting agent - and heat is conserved by recirculating the hot water.

The cold-water washing method, as worked out by the Mines Branch at Ottawa, operates at around 77° F. It requires that the oil in the oil sand be made considerably less viscous by adding am amount of diluent (having the approximate volatility of kerosene) equal in weight to the weight of oil in the oil sand; also, it is necessary to add a monovalent alkali such as soda ash and a wetting agent such as "Span 40". The diluted oil which is recovered contains, before settling, about 25 per cent water and 2.5 per cent mineral matter

(Djinghuezian and Warren, 1951). The process was only operated on a small pilot-plant scale, the maximum throughput of oil sand being about 300 pounds per hour, that is, a rate of 3.5 tons per day. The oil recovery by this process was also around 95 per cent. The Blair report (1950) indicated that the hot-water washing method is more economical because no reagents are required.

The development of the fluidized solids technique for catalytic cracking led to its application by the National Research Council, Ottawa, in the retorting of oil sand, the fluidized bed consisting of sand (Peterson et al, 1951). The product produced by this coking operation represented about 85 per cent by volume of a dry fluid oil having a gravity of around 16° A.P.I.and containing about 4 per cent sulfur. During compilation of the Blair report, however, it appeared that the capital cost of equipment to retort huge volumes of oil sand in a fluidized bed would be too great, and this would be reflected in a higher cost per barrel for the product. In addition, the disposal of enormous volumes of hot sand tailings would be a problem. It seemed that a more feasible arrangement economically for the fluidized solids technique would be the "dehydration-coking" in one operation of the wet crude oil obtained as an oil froth in the hot-water washing process; the yield of product

and its gravity and sulfur content appeared similar to what was obtained when the oil sand itself was retorted (Peterson et al, 1951).

It was indicated in the Blair report that the sulfur content of the coker distillate produced by fluidized retorting would have to be reduced considerably before it would be of acceptable quality for subsequent refining or marketing. Mild hydrogenation was considered as being the most economical means at present of accomplishing the reduction.

It is important to note that the in-place reserves of three billion barrels of oil obtainable by open-pit mining are transformed by the foregoing recovery methods into an almost equivalent amount of recoverable reserves.

Economic Aspects: Study and research on the economics of surface recovery method have been carried much further than for any of the subsurface methods. The Blair report on the Athabasca oil sands outlined a sequence of operations for possible commercial development of that portion of the oil sands readily available by open-pit mining. The sequence involved removal of the overburden, open-pit mining of the oil sand, hot-water separation of the oil from the sand, fluidized coking of the wet crude oil, desulfurization of the distillate produced by the coking, and pipeline transportation from the oil-sand area to market. It was estimated that

the cost of the desulfurized oil product, containing 0.26 per cent sulfur, laid down at Superior, Wisconsin, would be $3.10 per barrel. The desulfurized oil product would have a gravity of 26° A.P.I., show a Conradson carbon residue of 1.22 per cent, and consist of about 88 per cent gas oil and 12 per cent gasoline. Based on a value of $3.00 per barrel at Superior for Redwater crude oil of 30° A.P.I. gravity, it was assumed in the Blair report that the desulfurized oil product from the oil sands would have a value at Superior of at least $3.50 per barrel after making allowance for expenses that would be incurred in adjusting the quality of the oils to a comparable basis.

As of 1950, the Blair report provided the following breakdown of the cost of producing oil from the oil sands by means of open-pit mining:

Production Item		Cost per barrel
Strip mining, including overburden removal		$0.55
Hot-water separation of the oil from the oil sand, plus fluidized coking of the wet crude oil		0.72
Desulfurization of the fluidized coker distillate by mild hydrogenation		0.81
Pipeline transportation charges:		
(a) From Oil-sand area to Edmonton	$0.28	
(b) From Edmonton to Superior	0.55	
(c) Storage and all other transportation expenses additional to the direct line costs	0.19	1.02
		$3.10 *

* The pipeline transportation charges of $1.02 per

barrel is on a basis that provides a satisfactory profit directly on the capital involved. No specific allowance, however, was included in the mining and processing costs totalling $2.08 for interest or profit on the capital.

The net result of the above estimates -- $3.10 per barrel for total production cost and $3.50 per barrel as the value of the product -- is to show a possible realization of $0.40 per barrel. Based on a total capital expenditure for mining and processing of $43,600,000 on which interest and profit is required, and with an annual production of 6,000,000 barrels (20,000 barrels per day for 300 days), the profit of $0.40 per barrel would yield 5.5 per cent on the investment.

The Blair report was examined carefully by the oil industry as a whole and the general feeling was that the conclusions reached were sound. Even though some of the oil companies may have differed (sometimes appreciably) as regards some of the details, their final total cost estimates were very close to the estimate given in the Blair report.

In bringing the conclusions of the Blair report up-to-date, as of 1958, it is necessary to consider the changes that have taken place during the past eight years. Speaking generally, operating costs and the value of the oil products appear to show similar percentage increases. In other words, the profit per barrel would still be quite similar

to that shown in the Blair report. Of course capital costs have increased during the period but, on the other hand, marked technological advances have taken place, as in the case of hydrogenation. The net result is, probably, that the estimate of a 5.5 per cent return on the investment, as given in the Blair report, would not be substantially changed.

Interest in the production of oil from the non-conventional petroleum reserves of North America still continues to run high. The Union Oil Co. has built and is operating a small oil-shale plant in Colorado and has announced its intention of doing likewise with the bituminous sands in California. Sohio Oil Co. has acquired holdings on the Asphalt Ridge of Utah and has started a study of oil recovery from this bituminous sand. About 25 Canadian and international oil companies have leases and/or permit areas in the Athabasca oil-sand region.

It is our feeling that it will take at least three years, from the time a decision is made to proceed, before an oil-sand project can be in production. The first successful one will be the result of sound judgment and correct timing.

The development of the oil sand resources has caught the fancy of the lay scientist over the past seventy years because he sees a vast

resource of oil that cannot be produced readily, and he is tempted to try to develop a process that can be used to separate this oil from the sand in its "unlimited" quantities for a very modest price. It is most important to note in this respect that the charge of separating the oil from the sand by known methods is very low -- about 36 cents per barrel as indicated by the Blair report. Consequently, very little is to be gained at this time by trying to make a major improvement in the separation process without realizing that the major cost of the separated oil is derived from all the other necessary steps in the over-all production sequences -- the mining, coking, desulfurization, transportation and all the auxiliary services. Even if some very sound novel process for separation were developed and it separated a barrel of oil for, say, one cent, the cost of that barrel of oil in a major market zone would still be nearly three dollars. The obvious role for additional research in surface production methods is for a general reduction of all the processing costs, including the separation costs.

General Summary and Outlook:

The foregoing sections have discussed in some detail the character of the Athabasca oil, the magnitude of the in-place reserves, and the production methods. This led ultimately to an evaluation of the recoverable reserves with an indication of the cost of production of the oil.

This general summary and outlook section will deal with the way in which the Athabasca crude oil reserve will fit into the general picture of crude oil in Canada. Attention will be directed to the immediate future, and also to the far distant future when competing or supplementary nuclear energy will become available in unlimited quantities. Obviously much of what will be set forth will be of a very speculative nature. It should be noted, however, that Council is not an authority on all phases of the subject, and all it can do at this time is to indicate that if a given premise were true then a certain conclusion would follow.

1. Athabasca In-Place Reserves: An in-place reserve of greater than 200 billion barrels is indicated for the Athabasca oil sands. This figure is obtained by considering a 100-foot vertical section, containing 6 per cent by weight of oil, extending over an area of at least 5000 square miles.

2. Athabasca Oil Recoverable by Surface Methods: Athabasca oil recoverable by strip mining oil-sand areas which are under light overburden -- defined as less than one foot of overburden per foot of good-grade oil sand -- for treatment in surface separation plants as outlined in the Blair report, is estimated to be about 3 billion barrels. Of the 3 billion barrels, one billion are in the Mildred-Ruth Lakes area. The other two billion have been indicated by exploratory drilling in other areas within the general oil-sand region.

3. Athabasca Oil Recoverable by Subsurface Methods: An in-place reserve of greater than 100 billion barrels, reduced by a recovery factor of about 20 per cent, indicates a recoverable reserve of 20 billion barrels. If the recovery factor were only 10 per cent, recoverable reserves would be as low as 10 billion barrels. On the other hand, if the in-place reserves were, in fact, 200 billion barrels, a 20 per cent recovery would yield 40 billion barrels.

4. Recoverable Reserves of Crude Oil in Alberta: The report of the Oil and Gas Conservation Board to this Commission set the non-Athabasca oil reserves of Alberta as 3.9 billion barrels. It should be noted that this figure represents present reserves plus past production.

5. Ultimate Recoverable Reserves of Crude Oil in Alberta: The report of the Oil and Gas Conservation Board to this Commission set out the non-Athabasca ultimate reserves of recoverable crude oil for Alberta as 15 billion barrels, and indicated that it made little allowance for increases in recovery which will undoubtedly accompany growth in secondary recovery methods.

6. Ultimate Recoverable Reserves of Crude Oil in Canada: Accepting the figure of 15 billion barrels as the ultimate reserves for Alberta, an equal ultimate reserve for the remainder of Canada does not seem excessive. (The 30 billion barrel total indicated here is low when compared with the 50 billion estimated by the Canadian Petroleum Association in its submission to the Commission.) Adding to this the estimated recoverable Athabasca oil reserves would give an ultimate recoverable reserve in Canada of 53 billion barrels. For comparison purposes it should be noted that the corresponding figure for oil reserves in the United States is said to be 250 billion barrels, based on recently-determined proven reserves of about 87 billion (Ayres, 1956).

7. Canadian Consumption: During the next 25 years Canada should consume about 10 billion barrels of oil, assuming a steady increase in consumption of 3 per cent per year

from the present rate of consumption. It has been reported that the yearly increase in the United States in recent years has been slightly less than 3 per cent (Ayres et al, 1950). If the yearly rate of increase in Canada were 5 per cent, the consumption during the 25-year period would be about 13 billion; if the yearly increase were 10 per cent, the total oonsumption would amount to 25 billion.

8. Timing Production of the Athabasca Oil: It has been indicated that the ultimate reserves of all recoverable crude oil in Canada may be about 53 billion barrels. It has been indicated as well that about 23 billion barrels of that reserve is Athabasca oil. The question arises as to when the 23 billion will be developed in relation to the other 30 billion. The obvious answer is that the cheapest oil will be produced before the more expensive. As the supply of the cheapest oil begins to taper off, the price of crude oil will rise and continue to rise. The Blair report concluded that the Athabasca oil from strip mining could compete with normal Alberta crude oils on the world market at that time -- 1950. It now appears that the Athabasca oil is a little further away from being competitive because of sharply rising plant construction costs and general marketing problems.

Nevertheless, it appears that the first billion barrels of Athabasca oil will enter the crude oil market before long. The development of the second part of the reserve -- the two billion barrels available under more severe overburden conditions -- should follow fairly closely.

It is very difficult to predict just when the major part of the reserve will enter the crude oil market. The timing is dependent largely upon the cost of subsurface combustion methods or other methods for subsurface oil recovery, and upon the technology necessary for application of the methods to the Athabasca reservoir. The very intensive study being given subsurface combustion methods at the present time in connection with secondary recovery suggests that the technology is advancing very rapidly, and it suggests as well that the costs of producing crude oil in this manner must be nearly competitive with primary production costs which include exploration costs.

9. Exploration Costs Relative to Production Costs: In discussing the Athabasca oil it is important to note that the exploration costs per barrel of oil found are relatively small because the general location of the field is known. In normal oil production, the exploration costs are high and the production costs tend to be low. As reserves are depleted, the exploration costs tend to rise steadily.

As the exploration costs continue to rise, more and more attention will be directed to working over the depleted fields for secondary recovery because the exploration costs there are essentially zero, making it economical to devote fairly high expenditures to recover the oil.

The Athabasca oil field fits into this secondary recovery picture very well because exploration costs are low and secondary recovery methods must be applied in any case.

10. Impact of Nuclear Energy on Secondary Recovery: Essentialy unlimited supplies of energy will become available from nuclear sources. Up to this point in the brief, all technological advances that have been forecast have been concerned with continuing work along more or less established lines. With an unlimited supply of energy coming into view, some farsighted consideration must be given to the impact of this on the technology of secondary production methods, especially as it applies to the Athabasca oil. The most obvious application of large amounts of energy to the Athabasca oil field is simply to convert the energy to heat and raise the temperature of the reservoir so that the oil may be produced as a normal low-viscosity oil with a solution gas drive. This suggestion seems disarmingly simple, but it must not be dismissed as wildly impossible.

11. Impact of Nuclear Energy on Crude Oil Markets: Nuclear energy will become available in essentially unlimited quantities some day. The foregoing section discussed the application of the new energy source to the production of oil from the Athabasca field. The question arises as to whether there will be any need of oil from the Athabasca oil field or any other field when the nuclear energy is available. Even a bigger question is: Will energy be required from any of the fossil fuels?

It appears very probable that nuclear energy will compete with and ultimately displace the fossil fuels in the development of central-station electricity. This cheap electricity will next displace the fossil fuels from the major space-heating markets. The third point of conflict between the energy supplies would take place in the transportation market. While Edward Teller (1957), an outstanding physicist in the United States nuclear development research, stated in 1957 that he could not see nuclear energy becoming very important in civilian transportation -- particularly in automobiles, trains and airplanes -- nuclear ocean transport is under active development now.

The picture, over-simplified of course, appears to be one in which the need for the fossil

fuels -- oil, gas, coal and oil shale -- will reach a maximum and then begin to decline as the nuclear energy supplies become increasingly available. However, there will continue to be a need for portable liquid fuels for surface transport on land.

Certainly it would be my feeling that there will long be a demand for a liquid petroleum fuel, and that also,of course,for petrochemical, and so forth.

Now I would just like to point out that there are other aspects to the whole oil sand picture other than perhaps you are interested in. Some of us feel that this is a wonderful oil field, unconsolidated, open field, and one can learn a lot from it than on the recovery of oil in the ground, in more conventional fields. Be that as it may, there is bound to be an interplay and the more we learn about the oil sands the more we will be able to do about secondary recovery in existing oil fields and vice versa, and I think there is going to be an impact of one on the other with the end benefit in so far as our picture of oil reserves is concerned.

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Now, I feel that we have perhaps skimmed over and I can just feel the question vibrating, when is the first development going to be and what is it going to be. Our group is divided on that, there is one field of thought that is convinced that strip mining and the surface extraction procedure is the way it is going to start: other people feel they are getting on so well with underground heating that that may be the way it will start. Possibly a small operation along both lines will start but how quickly the major developments will come depend, I think, on two things, the advance in technology in part and the old problem of world security. As Mr. Levy said this morning, it would be very nice to have large resources of oil in our own backyard and as we look at the instability in the Middle East, the double world in which we live, the rapid strides in technology, the swarming Asiatic people, the progress being made in the world of petroleum, I have every conviction that the commercial development in this field, including the immediate depressed condition at the moment, is going to be much sooner than some of us think. Whether it will be in two, three, five or ten years I would not like to say.

THE CHAIRMAN: Thank you very much indeed. Mr. Patterson?

MR. PATTERSON: Mr. Chairman, may I suggest

that this is a convenient time to take a short break.

THE CHAIRMAN: Very well, we will have a ten minute break.

---A short recess.

THE CHAIRMAN: Gentlemen, the Commission will now resume its hearing. Mr. Patterson?

MR. PATTERSON: Thank you, Mr. Chairman.

Dr. Grace, what I would like to do is address my questions to you, and then if you would perhaps select among yourselves the person to answer them. One of the matters that, as a layman, is puzzling me in regard to your estimation of oil in-place is that we have had, as you note in your brief, an estimate for the Western Canadian Basin of approximately 50 billion barrels, and now we come to a small area in which we have an estimate of 200 billion barrels, and I am wondering, in relating to those two estimates, whether your thinking is that this is a very rich area that acted as a sort of sponge and soaked up a lot of oil or whether you think that in the rest of the Western Canadian Basin we may perhaps, by reason of not being able to do it so easily, be doing a great deal of underestimating in relation to the 50 billion. Perhaps your geologist has done some thinking in that connection.

DR. GRACE: You have asked a lot of questions there. I think I would like Dr. Clark to take a crack at it, and perhaps Mr. Carrigy would gather up the pieces geologically.

DR. CLARK: I think one comment that could be made is that the 200 billion barrels in

the oil sand relates to the oil that is actually there, not what you can induce to come to the surface, whereas the 50 billion barrels you speak of in the basin is not recoverable oil, so they are not comparable figures at all. The actual oil present in the whole Canadian Basin could be a very colossal figure, actually, but it is what is recoverable and what industry regards as oil that can be recovered.

MR. PATTERSON: Perhaps that short answer clears up the confusion about which I was concerned.

Now, looking at the item on page 20, in the table of production items you mentioned this matter of desulfurization by mild hydrogenation, and it has been suggested to me that perhaps that is a process that can take place rather better at the Edmonton end of the pipeline where you have large natural gas resources. Now, is that a fair comment?

DR. GRACE: I think I would like Dr. Hodgson to speak to that. It is a pretty sour oil, and I think it is discussed by Blair. You probably want a pretty careful corrosion study made of it. If it was transportable in the highly sulfur condition there may be economic advantages in taking it to Edmonton for that purpose. In northern development I would guess that you need a lot of sulfuric acid up in the north.

DR. HODGSON: Mr. Patterson, I believe that the Blair report did put the site of the desulfurization in the Edmonton area. It has involved a matter of evaluating the corrosion problems that would be involved in transporting a sour crude oil, and the feeling at that time was that the oil could be transported quite conveniently without any severe corrosion problems, and I believe that the site of the desulfurization was located in Edmonton.

MR. PATTERSON: You believe that the desulfurization plant was located in Edmonton, according to the Blair report.

DR. HODGSON: Yes, that is my understanding of the Blair report.

MR. PATTERSON: Dr. Clark, you, I think, were going to give us some information in regard to the companies that have permits, and perhaps you could also give us some indication as to the companies that are actively developing those permits and, perhaps to the extent it is not classified information, some of the methods that are being used in the oil sands area at present.

DR. CLARK: Well, I am afraid I can't give you a ready answer to how many companies are in the field, but that information is certainly easily available; the Department of Mines and Minerals puts out the map, keeps the map up to date, and which I

believe can be had by going and asking for it and seeing the areas and leases that are in existence at the present time. It gives a list of the permit holders, also leaseholders, so there is no difficulty in getting that. I might say that the number of permit areas now stands at 93. That doesn't mean there are 93 separate parties, because some hold a number, but I think it is greater than the 25 which is suggested in the brief. Quite recently there has been almost a rush in getting permit areas in the oil sands; just why, I don't know, but it is a fact.

Now, the methods that are being used, of course, are -- anybody who takes out a permit area has to explore it or otherwise sacrifice his deposit, and I think it can be assumed that they will all do an exploration program.

Now, the activity to date is largely a matter of drilling or coring to determine what the oil sand section of a given area is. Some of the companies are doing some other experimentations, but that is their own affair and I am not informed of it and I just don't know except that they are quite interested.

MR. PATTERSON: Thank you. Those are all the questions I have. Thank you, Mr. Chairman.

THE CHAIRMAN: Mr. Frawley?

MR. FRAWLEY: No, I have no questions, Mr. Chairman.

MR. COMMISSIONER HARDY: Mr. Chairman, I wonder if Dr. Clark would tell us what the limitation is on these permit holders. Is it correct that any oil that comes out of the oil sand area can interfere with the quotas in the rest of the province?

DR. CLARK: That is right. There was legislation passed which had this effect, that an oil sand operator is not subject to the pro rating which an ordinary conventional field well operator is subject to; and the oil sand operator does not share in the pro rated market, he has got to find his own market. The Conservation Board, for instance, won't tell an oil sand operator if and when there is one, that he must hold his production to so many barrels a month. On the other hand, they want to assure him of the market, but he has got to find his own.

MR. COMMISSIONER HARDY: Which would appear from that that the most likely procedure would be that he would market his product locally, he would never ship to a pipeline.

DR. CLARK: I am not too sure. I think he would have to be associated with an integrated oil company or a refining company that would assure him of who would guarantee to take his oil production. I think that would be essential before he could enter into a project.

MR. COMMISSIONER HARDY: But could he bring a product, processed product to Edmonton and feed it into the Interprovincial or Trans-Mountain Pipe Line?

DR. CLARK: Yes, he may do that.

MR. COMMISSIONER HARDY: And therefore it detracts from the quotas from the wells; at the present time it would.

DR. CLARK: I suppose it would. There is some refiner who is going to commit himself to taking the oil sand oil and consequently he is not going to take the oil from anywhere else.

MR. COMMISSIONER HARDY: We have heard quite a lot here during the past few days of incentives for exploration, and I take it from what you say that the incentive for the work up here is that it is a long-term research incentive. You can't justify it any other way for there being an immediate market for the product.

DR. CLARK: I can't see any other way of getting into that production, because there is a lot of money in it. But I do think that the oil companies and the industry are thinking down the road quite a piece and have serious problems, very serious problems, and would just like to know how much they can look to them to depend on this oil sand reserve, and from that standpoint I rather think that they would welcome any attempt at the present time. Supposing

there was a 20,000 barrel a day project, the 20,000 isn't going to affect the oil situation, it is a drop in the bucket, but, yet, it is a big undertaking enough to show what can be expected from an oil sand development. It is just my own opinion, that a start of that kind is likely to happen at any time. The Blair report says that there is a lot of money in it; you probably won't lose any money init, as you probably make some.

MR. COMMISSIONER HARDY: That is the only incentive for this broom in taking out reservations.

DR. CLARK: Well, really I can't explain it. It is most interesting to me that the oil industry should take up all of the area that is arbitrarily designated as oil sands; they have practically taken out all for oil exploration purposes. I think it must be that they are really wanting to -- well, I will put it this way, that major companies are intent on keeping themselves informed as to what can be depended on and looked forward to in the oil sands, and since they have been into the rest of it they think they should get into that.

DR. GRACE: Mr. Chairman, we heard this morning of oil companies going to the Arctic exploring with all the interesting in situ operations. There may be some rather dramatic in situ developments,

and I would say that people want to get into this, because if in situ thermal drive did work (and the ten or twenty percent is very low) you might have sittings within 300 miles of continental pipelines where you have sittings of 200 or 300 billion barrels of oil. It is just too big a reservoir and too close technologically to major development for people to overlook.

While I have your attention, may I say that in visualizing the surface of extracted oil, I don't think we, in our brief, made it quite clear enough that the consequences of operations announced by Blair do not give you a crude oil in the sense of ordinary oil operations, it gives you almost a refined product; a good deal of your normal refining operation has been done by the time you have got that oil hydrogenated. I just say that so that you don't, in your thinking of the three pipelines, tie it down to what comes out of the ground.

THE CHAIRMAN: Dr. Grace, thank you and your colleagues of the Research Council of Alberta for the great care in which you have prepared this brief, which is most informative to us. I think all of us were very curious about the oil sands in Athabaska, and this will add to our background of information. It is very well put together, and we appreciate your explanation this afternoon and we appreciate you coming here. Thank you very much.

DR. GRACE: It has been a pleasure on our part. We wish you well in your hard task.

Submission of

ROYALITE OIL COMPANY, LIMITED

APPEARANCES:

Mr. E. J. Chambers	-	Counsel for the Company
Charles Hay	-	Executive Vice-President
Gordon A. Connell	-	Chief Petroleum Engineer

THE CHAIRMAN: Mr. Patterson?

MR. PATTERSON: Thank you, Mr. Chairman. We now have a submission from Royalite Oil Company, Limited which I suggest be Exhibit CC-13-3.

Mr. Chambers appears as Counsel for the Company and I would ask him to introduce the gentlemen presenting the submission to the Commission.

THE CHAIRMAN: Mr. Chambers?

MR. CHAMBERS: Mr. Chairman, members of the Commission, the representatives of Royalite Oil Company, Limited who are here are Mr. Charles Hay, Executive Vice-President of the Company and Mr. Gordon A. Connell. He is the Chief Petroleum Engineer of the Company. The brief will be read by Mr.Connell, and Mr. Hay and Mr. Connell will be pleased to answer any questions that can solve the oil sands problem.

THE CHAIRMAN: Thank you, Mr. Chambers.

MR. CONNELL: Bituminous Sand Deposit - Permit 17: Core drill surveys have been carried on by Royalite Oil Company, Limited in Prospecting

Permit No. 17, at a locality in Township 93, and also includes some of Township 92, Range 10, West 4. These surveys were carried on at various times in 1956 and 1957.

By the end of 1957 a total of 88 holes had been drilled in an area comprising 3200 acres. The location of the holes drilled appears on the map which is Figure 1.

Core Hole Technique: Equipment used consisted of a Failing 1500 drill which was adequate for this type of work. Coring was usually done with a 5 5/8" fish tail bit, although hard formation core heads were required for occasional ironstone bands.

Cores recovered were 1 7/8" diameter, caught in a regular Type J Hughes core barrel nine feet long. Core cuts were limited to a maximum of 7½ feet to prevent packing. Core recovery in the bituminous sand was better than 90%.

Overburden consisted of variable sand and gravel to an average depth of 36 feet. Average hole depth was 225 feet and most core holes were bottomed in the Devonian Limestone below the base of the bituminous sand.

Coring and Sampling: Coring and sampling in each hole was started where bituminous sand was first encountered as indicated by the first appearance of oil in the drilling mud. The whole bituminous

sand formation below this point was cored.

Each core cut was carefully laid out and the mud allowed to drain off. Sampling and canning followed immediately, before freezing could occur. The whole core interval was carefully sampled, making sure that the samples taken were a true representation of the core. The samples were placed in new quart-sized cans which were then sealed with a hand operated canning machine. Completely barren zones were not canned but sample chips were taken. All material saved was carefully labelled as to location and depth.

Cores were described at the site of the operation by the geologist in charge. A complete set of canned core samples was sent to Edmonton for laboratory analysis and determination of bitumen saturation by percent weight and percent volume. Bulk density and grain size determinations were made on cores from selected locations. These tests and analyses were made in a commercial laboratory using standard equipment and established procedures.

Calculation and Reserves: In the Mildred Lake area the bituminous sand section as determined from core holes averaged 168 feet in thickness, with average overburden of 36 feet. The average bitumen content was determined from laboratory analyses as 8.6% by weight. A log plotted from information obtained in a core hole in the richer

part of the area is shown as Figure 2.

Calculation of in-place oil in the bituminous sand was made by determining the weight percent of bitumen in the total sand section within the area examined. In order to make such calculations, it was necessary to establish certain basic units of measurement of weight and volume.

The weight of a barrel of clean separated bitumen recovered from the bituminous sands was established as 356 pounds. A cubic yard of average grade bituminous sand was found to weigh 1.6 tons. The calculation of the number of barrels contained in the bituminous sands in an area of one square mile is therefore expressed as follows:

$$1760 \times 1760 \times \frac{168}{3} \times 1.6 \times .086 \times \frac{2000}{356} = 134{,}000{,}000 \text{ bbls.}$$

Total oil in-place in the area of 3200 acres examined by Royalite is calculated to be 670,000,000 barrels. This is believed to compare favourably with bituminous sand deposits in other localities within the general area, based on information now available.

Extensive drilling of bituminous sand was carried on by the Department of Mines and Resources, Ottawa, during the period 1943 to 1947. The results of this work have shown a presence of a rich deposit in the area immediately south of the Royalite holdings where calculated reserves in the richer portion appear to be as much as 200,000,000 barrels per square

mile in an area of 2880 acres.

I also have here a report on the results of additional work which has been conducted during 1958. As a result of drilling in 1958, an additional area of 2100 acres to the west and to the south may be added to the area explored. This area contains a calculated amount of 458 million barrels of oil in-place. The total oil in-place in an area of 5300 acres, that is combining the 2100 and 3200 acres is therefore calculated to be 1,128,000,000 barrels for an average of 136 million per section.

I believe that is all I have on the reports of the core drillers, Mr. Chairman.

THE CHAIRMAN: Mr. Patterson?

MR. PATTERSON: Thank you, Mr. Chairman. I wonder if I may take this opportunity to get a little information for our records about Royalite, and I would appreciate your outlining to me Royalite's position in the industry. I take it to be an integrated company?

MR. CONNELL: That is correct.

MR. PATTERSON: And you have land holdings and are active in the Province of Alberta?

MR. CONNELL: That is correct.

MR. PATTERSON: Are you active in provinces other than Alberta?

MR. CONNELL: We are also in Saskatchewan.

MR. PATTERSON: And do you happen to have

at your fingertips your present situation as to the number of wells you have and the acres you have under lease?

MR. CONNELL: At the end of 1957, Royalite was operating 442 oil wells and 95 gas wells and had various interests in 20 oil wells and 64 gas wells operated by others. We now own 260 net oil wells and 82.8 gas wells.

MR. PATTERSON: Can you give me a figure on your MPR in Alberta and what, either in barrels or percentage of that, you are selling?

MR. CONNELL: I think I can calculate it for you just in a few minutes. We operate 47 oil wells in the Redwater field. The MPR on a field as a whole are 180,000 barrels a day, so that gives a little over 210 barrels a day per well. Our interest in those wells is equivalent to about 31-1/2 barrels, so that is a little better than 6,000 barrels a day MPR, whereas present allowable is either 31 or 32 barrels a day so we are producing approximately 1,000 barrels a day from that field net.

MR. PATTERSON: About one-sixth?

MR. CONNELL: One-sixth, that is correct.

MR. PATTERSON: Is that a general situation? Do you have other interests in Alberta?

MR. CONNELL: Yes, we have interests in the Turner Valley. There is no pro rationing to the market demands of Turner Valley. That is based on the reservoir withdrawal. Our net production from Turner Valley is slightly over 1,000 barrels a day. We also have 50 per cent interest in ten T3 oil wells in the Acheson field. I am trying to recall what their allowable is now; I think it is slightly over 500 barrels per day where the MPR for the field is 20,000 barrels a day which works out to around 225 barrels per well per day, so we are producing approximately a little less than 25 per cent of the allowable in that field. That is our major production in Alberta, and we have a few other wells.

MR. PATTERSON: Do you have any Saskatchewan production?

MR. CONNELL: Yes, we have substantial interests in the Colville field and also southeast Saskatchewan.

MR. PATTERSON: And Colville is the point where you have a refinery of your own?

MR. CONNELL: Yes.

MR. PATTERSON: So there is no pro rationing affecting you at all in Saskatchewan?

MR. CONNELL: It is not pro rated, it is just a matter of getting the market out of railways requirements and right now in asphalt requirements we are producing less than 50 per cent of capacity. In southeast Saskatchewan there is some pro rationing by pipe line. This month it is a little over 80 per cent, about 82 per cent.

MR. COMMISSIONER BRITNELL: I was not quite clear whether the 442 wells referred to Alberta alone or Alberta and Saskatchewan combined.

MR. CONNELL: That is all our wells.

MR. PATTERSON: Can you tell me any other locations of your refining operations?

MR. CONNELL: We have a refinery of 5,000 barrels per day capacity, for light crude, in Kamloops, British Columbia, and 625 barrels per day for both light and heavy crude in Saskatoon, and a 1,000 barrel per day refinery which operates successfully with heavy crude from the Colville field in Prince Albert, Saskatchewan.

MR. PATTERSON: And are those refineries presently running on Canadian crude?

MR. CONNELL: Yes, they are.

MR. PATTERSON: To capacity with the exception which you mentioned of the Colville one?

MR. CONNELL: No, Kamloops is operating about 3,600 barrels a day; Saskatoon is running

fairly close to capacity, Colville is shut down at the present time; Prince Albert, I believe, is running 800 or 900 barrels per day. You were not interested in the gasoline plant? We also have a gasoline plant at Turner Valley.. It is not a refinery.

MR. PATTERSON: You also have an interest in the Madison plant, too?

MR. CONNELL: The absorption plant is Royalite Madison for the gas-gathering and scrubbing plant.

MR. PATTERSON: Now, do you have affiliation with American companies or can you give us the share structure and share holdings by a breakdown between American and Canadian?

MR. CONNELL: Royalite is a Canadian independent and there are some American shareholders but the majority of the stock is held in Canada. We can obtain that shareholding for you, if you so desire.

MR. PATTERSON: If you can give it to me in that breakdown. Have you interests or affiliates of Royalite outside of Canada or have you operations carried on in conjunction with others outside of Canada?

MR. CONNELL: Yes, Royalite Oil Inc. is a Delaware corporation which operates in the United States and in Alaska. We have some

exploratory lands in Montana and North Dakota and also in Louisiana. We have a 50 per cent interest in one gas well in Louisiana.

MR. PATTERSON: You mentioned operations in A aska?

MR. CONNELL: That is in carrying on the exploration. We do own one-eighth interest in 800,000 aacres of exploratory land in Alaska.

THE CHAIRMAN: Is that company a subsidiary of Royalite?

MR. CONNELL: Yes, a wholly-owned subsidiary. You also asked our ownership in exploratory lands: our net ownership at the end of last year was 1,396,992 acres.

MR. PATTERSON: Taking into consideration the interest that you mentioned a moment ago?

MR. CONNELL: Yes, that is all in.

MR. PATTERSON: Now, turning to the oil sands operations, I believe you have a pipe line charter for a pipe line to Edmonton; is that correct?

MR. CONNELL: That is correct.

MR. PATTERSON: Now, if in asking a few questions about this matter I tread on matters of company secrecy please do not hesitate to call a halt. We have just had, as you perhaps heard and know, a brief submitted by The Research Council and I was wondering to what extent you would be

prepared to comment on the figures given in the Blair Report and reproduced in the submission at page 20, dealing with these cost problems. Can you give us anything up-to-date from your experience in regard to the various items set out there, whether they are generous or whether you are finding them to be rather too low? Do you have a copy of those figures?

MR. CHAMBERS: I do not think Mr. Connell has seen the report.

MR. CONNELL: I have seen the report some time ago and I think we can cover that by a general comment on the basis of our own experience, that our work is still in the research stage, and as pointed out by Dr. Grace the separation of the oil from the sand is only one part of the total work which has to be done to determine whether or not it is economically feasible to work the sand. We are not yet in a position to determine what will be the costs for the various operations in that field so I do not think we are in a position to comment on the Blair Report either.

MR. PATTERSON: In other words up to the present your activity has been turned mainly to a determination of what is there. You have your charter for the pipe line but your studies have not gone beyond that point?

MR. CONNELL: Well, our investigations

have covered all phases as outlined by Dr. Grace but they are not sufficiently advanced to come up with realistic estimates of cost.

MR. PATTERSON: Thank you very much. Those are all the questions I have.

THE CHAIRMAN: Mr. Frawley?

MR. FRAWLEY: No, thank you very much, Mr. Chairman.

MR. COMMISSIONER HARDY: Just carrying on a little further with what was being discussed, is Royalite investigating more than one separation process?

MR. CONNELL: We have investigated the so-called Colson process and have been working on improvements in that process. You are probably familiar with what that process is. It has been described in the papers and it is the use of centrifugal force for separation of oil from sand.

MR. COMMISSIONER HARDY: Do I understand that you are investigating, as you see fit, a whole integrated programme of developing your property and winning the sand from the oil by this particular process? You are not interested in general preparation problems such as the Research Council have interested themselves in?

MR. HAY: I might answer that by suggesting that I was impressed by the remarks of Dr. Grace when he drew to your attention that the

problem involved has many phases. We have found that the operation of a separation unit is one of several large problems that we have to work on and solve and our study includes all phases of it, the treatment of the oil after it is won from the sand to make it a pumpable commodity and further treatment to prepare it for pipelining and uses for commercial groups. We are investigating all phases of schemes to develop that towards commercial operation.

MR. COMMISSIONER HARDY: At the moment you are looking at it with the prospect that you would use the oil in your own refineries?

MR. HAY: Anywhere our permits say we can start as an integrated company to find oil we can use our own revenues and incorporate some of the refining. We might give it some small refinements at Edmonton or Mildred Lake as our investigations proceed. We have found it desirable to investigate other areas that we might use in which we might use a product we might recover from the sands.

MR. COMMISSIONER HARDY: Well, in view of the discussion we have had here in the last few days of incentive, I would take it that your incentive in this operation at the moment is pretty definitely one of securing additional supplies of oil for your own integrated ---

MR. HAY: No, it seems to me the changes in research for the last three or four years, the incentive was that we had refineries that we expected would about balance the requirements for a 20,000-barrel day plant. As we went further into the problem, and as we unfolded, economic features of mining or pipe line, we found we had to look at various other phrases of the project so I am not sure I can define our incentive immediately as that of finding oil solely for our own refineries.

MR. COMMISSIONER HARDY: Now, we have been told -- this is more or less a general basis -- but we have been told in the last few days that there is a great need for additional markets for Alberta oil and that the present situation is not providing enough incentive for people to go out and do the necessary exploration to prove up the resources. You apparently are choosing to go into the tar sands or the oil sands rather than going into the exploration business by conventional methods of exploration for oil wells.

MR. HAY: No, I would not like to leave that impression with the Commission. We are in both.

MR. COMMISSIONER HARDY: This you think is a good bet?

MR. HAY: As a research project for

a company our size with the diversified interests that we have, we feel we can dedicate a reasonable proportion of our money to this project.

MR. COMMISSIONER HARDY: Thank you very much.

THE CHAIRMAN: Well, thank you very much, Mr. Hay, Mr.Connel and Mr. Chambers for your presentation. You have given us some very interesting information about your activities and we are very glad you came before us.

MR. PATTERSON: Mr. Chairman, that completes today's time table and if I may suggest that we appear to be in the position that tomorrow the only scheduled submission is that of West Maygill and perhaps it would not hurt, that being a rather short submission, to arrange that that be heard the first thing on Thursday morning and give us a day off to rest.

THE CHAIRMAN: Well, that would be most welcome. Is that satisfactory to the West Maygill people?

MR. PATTERSON: I do not think they are here today but I am quite sure it will not inconvenience them.

THE CHAIRMAN: Very well, we will adjourn until Thursday morning, in this room, at ten o'clock.

---Whereupon the Commission adjourned at 4.15 p.m. until 10.00 a.m., Thursday, May 15th.